



NATIONAL HEALTH & MORBIDITY SURVEY 2022

ADOLESCENT HEALTH SURVEY 2022



MALAYSIA

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MESSAGE FROM THE DIRECTOR-GENERAL OF HEALTH MALAYSIA



Adolescence is a life phase in which the opportunities for health are tremendous and future patterns of adult health are established. Approximately one-third of the global Burden of Disease (BOD) is attributable to adolescent health risk behaviours. The World Health Organization (WHO) has developed the health risk behaviours measurement tool, the Global School-based Student Health Survey (GSHS), to improve global adolescent health. More than 140 countries have used the GSHS tool to periodically monitor the prevalence of health risk behaviours and protective factors among adolescents.

In Malaysia, the Ministry of Health (MOH), in collaboration with the WHO, conducted the first Global School-based Student Health Survey among adolescents aged 13 to 17 in 2012. The same survey was then implemented in 2017 under the umbrella of the National Health and Morbidity Survey, followed by the current study. These series of surveys have provided important information on changes in Malaysian adolescent health status and behaviour, thus allowing MOH to review the current program and plan for new strategies to improve the health status of our future generation.

My highest commendation goes to the Institute for Public Health survey teams for completing this critical analysis. I also wish to thank the Ministry of Education for its cooperation and support during the implementation of this survey. Lastly, thank you to all the students who participated in this survey.



Tan Sri Dato Seri Dr Noor Hisham bin Abdullah
Director General of Health
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LIST OF ABBREVIATIONS

AHS	Adolescent Health Survey
BOD	Burden of Disease
CDC	Centers for Disease Control and Prevention
GSHS	Global School-based Student Health survey
IPH	Institute for Public Health
NMRR	National Medical Research Register
UNICEF	United Nations Children's Fund
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNODC	United Nation Office on Drug and Crime
WHO	World Health Organization

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EXECUTIVE SUMMARY

A total of 239 out of 240 randomly selected schools with 33,523 adolescents were involved in this study (overall response rate was 89.0%). The distribution of state, sex, and form among adolescents was almost equal. In terms of ethnicity, the highest number of adolescents who participated in the study were Malay (63.0%), followed by Chinese (18.1%) and Indian (6.0 %).

The study revealed that the prevalence of current use of any tobacco products, current tobacco smokers, current cigarette smokers and current electronic cigarette/vape (e-cig/vape) users among adolescents in Malaysia was 18.5%, 9.0%, 6.2% and 14.9% respectively. Among those who smoked cigarettes and among those who used e-cig/vape, 65.7% had initiated cigarette smoking, and 48.5% had initiated e-cig/vape use, respectively, before the age of 14. 41.8% of adolescents were exposed to someone who smoked nearby in their presence. The prevalence of current alcohol drinkers among adolescents was 7.4%. While the prevalence of ever-alcohol drinkers among adolescents in Malaysia was 18.6%, 64.6% of them had their first alcoholic beverage before the age of 14 years.

The prevalence of ever having sex and had sex in the past 30 days among adolescents was 7.6% and 5.7%, respectively. Of those who ever had sex, 32.8% had their first sexual experience before age 14, and 10.7% had at least two sexual partners. Only 11.8% of respondents or their partners had used condoms, while 11.9% used other birth control methods.

A total of 20.4% of adolescents had been seriously injured in the past 12 months, with the two most common causes of injury being falls and motor vehicle accidents. Among respondents, 14.8% claimed to have been physically attacked in the past 12 months, while 16.0% of adolescents claimed to have been involved in physical fights. With regards to bullying, 8.6% reported having been bullied in the past 30 days. The most common forms of bullying were "being made fun of because of how their body or face looks". Physical abuse at home was reported by 7.5% of adolescents, while 41.0% reported verbal abuse at home in the past 30 days.

A total of 16.2% of adolescents in Malaysia reported feeling lonely, and 4.2% said that they had no close friends. A total of 12.9% reported being unable to sleep "most of the time or always" due to worry in the 12 months prior to the survey. Prevalence of suicidal ideation, plan and attempt were 13.1%, 10.0%, and 9.5%, respectively. Overall, 26.9% of adolescents reported being depressed. The prevalence of truancy among adolescents in the past 30 days was 25.6%, and only 46.0% claimed to have peer support. Adolescents who reported having parental or guardian supervision, parental or guardian connectedness

and parental or guardian bonding were 9.9%, 24.2% and 33.4%, respectively.

Overall, 82.2% of adolescents reported brushed teeth twice a day in the past 30 days. A total of 43.3% of adolescents reported not knowing whether their toothpaste contained fluoride while only 21.4% used dental floss. In the past 30 days, 69.3% always used soap when washing their hands, 84.5% always washed their hands before eating, and 86.5% reported that they always washed their hands after using the toilet.

In relation to dietary behaviours, 2.5% reported being hungry most of the time or always in the past 30 days because there was not enough food at home. The consumption of fruits at least twice daily was 37.3% and vegetables at least thrice daily was 27.1% in the past 30 days. Only 16.1% reported fruits and vegetables consumption at least five times daily in the past 30 days. Consumption of carbonated drinks at least once daily in the past 30 days was reported at 32.4%, while 10.6% consumed food from fast food restaurants for at least three days in the past seven days. Milk/milk product consumption at least twice daily was reported at 23.2%, while 48.8% drank plain water less than six glasses per day in the past 30 days. The prevalence of stunting and thinness among adolescents was 6.8% and 8.3%, respectively, while the prevalence of overweight was 16.2% and obesity was 14.3%.

Prevalence of being physically active for a total of at least 60 minutes daily for five days or more in the past seven days was 21.4% and 27.0% of adolescents reported active transportation to school. In addition, 66.7% of adolescents had spent at least three hours on a typical or usual day in sitting activities.

Recommendations:

In view of the above findings, the following recommendations are suggested:

- Strengthening the multi-approach school-based nutrition and physical activity intervention to motivate behaviour modification for improving healthy eating and lifestyle amongst adolescents.
- Improving the national school curriculum that teaches life skills such as effective coping strategies as part of "Program Minda Sihat".
- A more comprehensive sexual and reproductive health education programmes should be planned and executed among adolescents.
- Strengthening the current law and taking legal action in controlling the accessibility of tobacco products.

1.0 INTRODUCTION

Adolescence is a life phase in which the opportunities for health are great and future patterns of adult health are established; it is a critical stage in life with significant physical, emotional, cognitive, and social development and other disruptions in their communities.¹ As much as one-third of the global Burden of Disease (BOD) is attributable to adolescent behavioral choices and events.² In order to improve adolescent health globally, the World Health Organization (WHO) has initiated the development of the health risk behaviours measurement tools known as the Global School-based Student Health Survey (GSHS).³ More than 140 countries have used the GSHS to periodically monitor the prevalence of important health risk behaviours and protective factors among adolescents.⁴ In Malaysia, adolescents comprise approximately 15.6% of the total Malaysian population, and the national data on health risks and behaviours are fundamental in developing policies and programmes for adolescents. Thus, the Ministry of Health, Malaysia took a step forward in collaborating with the WHO to conduct the first GSHS Malaysia in 2012 among adolescents aged 13 to 17 years, which aimed to determine the baseline of the health status of adolescents in Malaysia.⁵ In 2017, the second adolescent health study (AHS) using the GSHS methods and questionnaire was conducted in the country.⁶ These surveys revealed an increasing trend of health risk behaviours among adolescents in Malaysia.^{5,6} With the increasing trend of non-communicable disease risk factors and other behaviour-related risks, it is timely for the survey to be repeated in 2022 to further monitor the health status of adolescents in the country. The Ministry of Health conducted this third national survey on adolescents with the co-operation from the Ministry of Education to determine the prevalence of health risk behaviours and protective factors among adolescents in Malaysia.

1.1 Objectives

1.1.1 General Objectives

To determine the prevalence of health risk behaviours and protective factors among adolescents in Malaysia.

1.1.2 Specific Objectives

To determine the prevalence of:

- i. Alcohol use
- ii. Dietary behaviours
- iii. Drug use
- iv. Hygiene (including oral health)
- v. Mental health problems
- vi. Physical activity
- vii. Protective factors
- viii. Sexual behaviours
- ix. Tobacco use
- x. Violence and unintentional injury
- xi. Adolescents' perspectives on the impact of the COVID-19 pandemic on their families

2.0 METHODOLOGY

2.1 Study Design

The National School-Based Student Health Survey 2022 was a nationwide cross-sectional study of secondary school adolescents in Malaysia.

2.2 Sampling Frame and Target Population

The sampling frame comprised national secondary schools registered in 2021, which include government schools and private schools under the purview of the Ministry of Education (MOE) and the Ministry of Rural and Regional Development (MARA). According to the frame, there were 2798 secondary schools in Malaysia (**Table 2.1**). An equal proportion was sampled from 13 States and three Federal Territories to represent adolescents in each State / Federal Territories. The target population was secondary school adolescents aged between 13 to 17 years studying in form 1 until form 5 based on the local school categorization.

2.3 Sample Size Calculation

The sample size was calculated based on the objectives of each module using the sample size calculation formula for a single proportion. The sample size calculation was based on a few criteria, as stated below:

$$N_0 = \frac{z_{\alpha/2}^2 \times (p) \times (1-p)}{e^2}$$

Where:

- Variance of proportion of the variable of interest (Based on AHS 2017 survey)
- Margin of error (e) (Between 0.01 to 0.05)
- Confidence interval of 95%

To ensure optimum sample size to estimate the prevalence of the health conditions specified in the survey with acceptable precision, a few adjustments were made to the sample size calculation as follows:

- design effect (deff) of 2,
- nonresponse rates of 20%, and
- The sample size was then adjusted according to the need of the analysis, whether the estimates were going to be done at the national or the state level

Thus, the final sample sizes for adolescents at national and state levels were 36,000 and 2250, respectively (**Table 2.1**).

Table 2.1: Distribution of secondary schools sampled, by state

No.	State / Federal Territories	Total Number of Schools	Number of Schools Sampled	Number of adolescents sampled
1	Johor	328	16	2250
2	Kedah	219	16	2250
3	Kelantan	189	16	2250
4	Melaka	88	16	2250
5	N. Sembilan	142	16	2250
6	Pahang	211	16	2250
7	Pulau Pinang	148	16	2250
8	Perak	276	16	2250
9	Perlis	33	16	2250
10	Selangor	380	16	2250
11	Terengganu	166	16	2250
12	Sabah	245	16	2250
13	Sarawak	214	16	2250
14	WP Kuala Lumpur	135	16	2250
15	WP Labuan	12	8	2250
16	WP Putrajaya	12	8	2250
Total		2798	240	36000

2.4 Sampling Design

The country was stratified according to the 16 states, including federal territories, for the sampling. A multistage stratified cluster sampling method was used, and it involved two stages. The first stage was the selection of secondary schools from all eligible schools in Malaysia. Subsequently, the 240 schools were selected randomly with probability proportional to enrolment (PPS) in forms 1, 2, 3, 4, and 5. In each state, 16 secondary schools were selected, except for 2 smaller federal territories (Labuan, Putrajaya - 8 schools each) (**Table 2.1**). The second stage involved the selection of classes (secondary sampling units). All classes in forms 1, 2, 3, 4, and 5 were included in the sampling frame. Systematic probability sampling with a random start was used to select classes from each selected school. All adolescents in the selected classes were invited to involve in the survey.

2.5 Ethical Approval and Consent Forms

Ethical approval was obtained from the Medical and Research Ethics Committee (MREC), Ministry of Health, Malaysian (NMRR-21-157-58261). The permission to conduct the study was obtained from the Ministry of Education at the national, state and school levels. Only consented adolescents with consented parents were included in the study. Their participation in the study was voluntary.

2.6 Study Instrument

A validated self-administered questionnaire was used for data collection in NHMS 2022. The questionnaires were translated into the Malay, Chinese and Tamil languages and back-translated to English to ensure the quality of the translation. The questionnaires were then field-tested, revised, finalised, and approved by the NHMS 2022 Questionnaire Review Committee. The questionnaire consisted of 10 core modules and 1 additional module, which included the following topics:

- Alcohol use
- Dietary behaviours
- Drug use
- Hygiene (including oral health)
- Mental health problems
- Physical activity
- Protective factors
- Sexual behaviours
- Tobacco use
- Violence and unintentional injury
- Adolescents' perspectives on the impact of the COVID-19 pandemic on their families

2.7 Data Collection

This cross-sectional survey was conducted from June to July 2022 among adolescents in forms 1, 2, 3, 4, and 5 across Malaysia by 34 data collection teams: two teams for each state in Peninsular Malaysia, including Labuan and three teams for Sabah and Sarawak. Each state was assigned a field supervisor to oversee survey activities. A one-week training workshop was conducted for the field supervisor and 133 temporary data collectors before data collection. After completing the training, the assigned field supervisor and data collection teams travelled to their respective sites to conduct the survey at the selected schools. The adolescents answered the questionnaires on the optical mark recognition (OMR) answer sheet. The team leader verified the OMR sheets before posting them to Institute for Public Health (IPH).

2.8 Quality Control

Quality control of the whole survey was done at various stages. During the planning stage, quality was ensured through a robust survey design, validated questionnaires and tools, manuals, and standardised training. In the field, the team leader and field supervisor checked the quality of the data collected. At the same time, members of the Central Coordinating Team (CCT) at IPH monitored data collection progress and conducted data quality control on a weekly basis. **Figure 1** detailed the organization chart at Institute for Public Health level.

2.9 Data Processing and Quality Centre

All data processing and quality activities were centralised at IPH, starting from receiving the OMR bundles from the field until the handover of the dataset to the data analysis team. Four stations were set up at this Centre to ensure the activity ran smoothly (**Figure 2**).

2.10 Data Analysis

SPSS version 26.0 was used for data analysis. The data was examined for quality control and cleaned for any inconsistencies. Analysis was done according to objectives, working definition and dummy tables prepared by each research team. A complex sample analysis procedure was performed with a 95% confidence interval. Prevalence and percentages were used to illustrate the findings of each scope.

2.11 References

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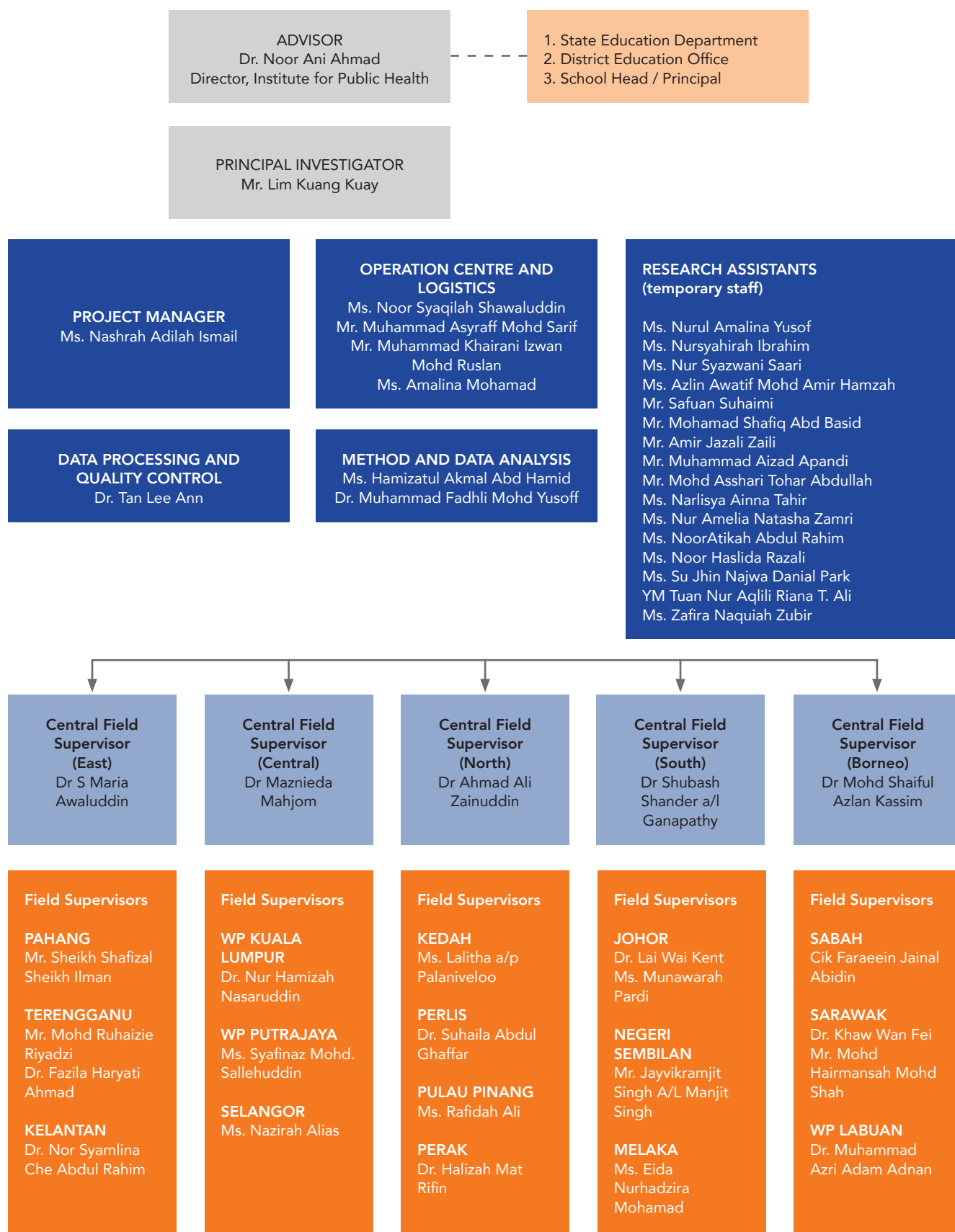


Figure 1: Organisation chart for data collection team NHMS 2022

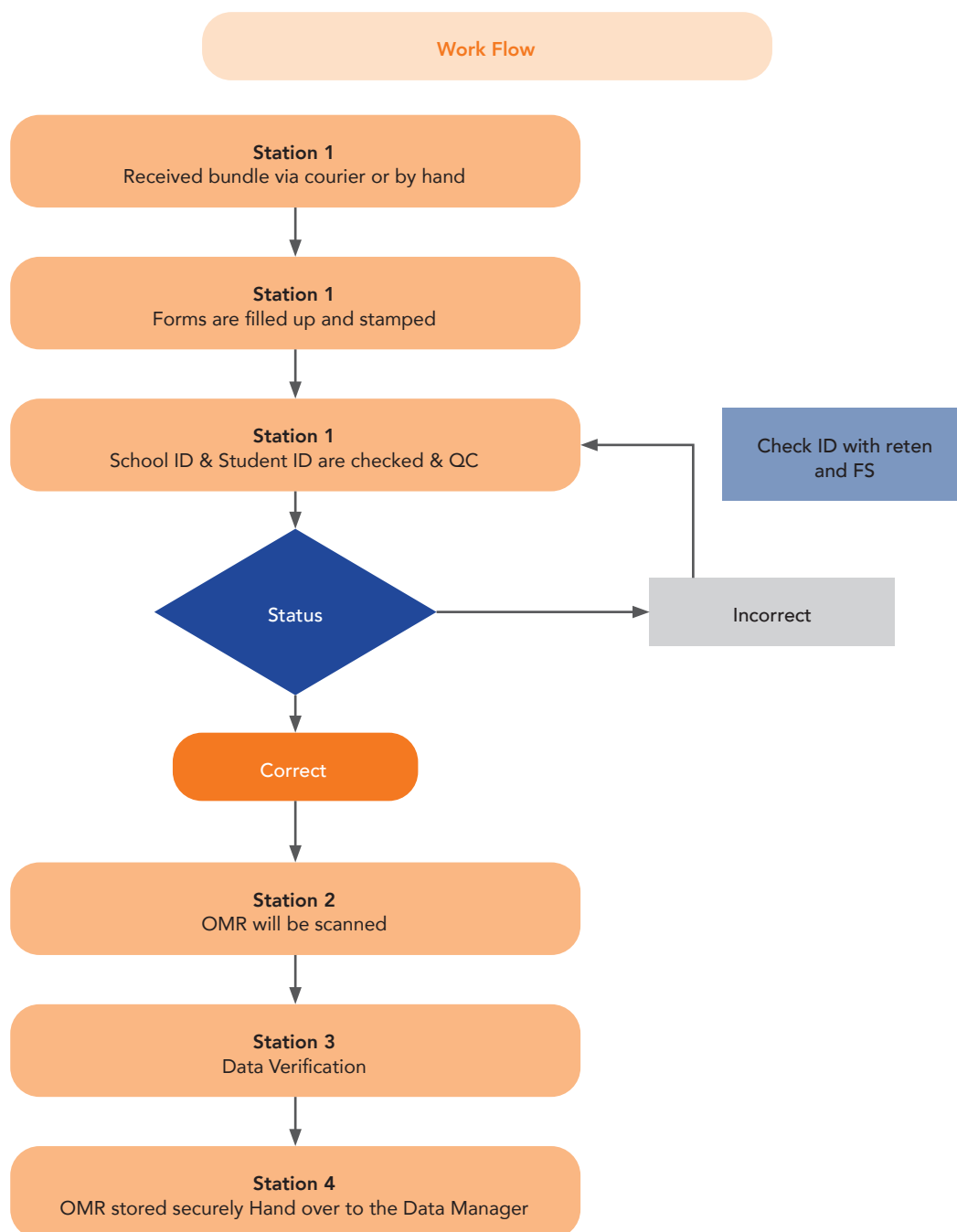


Figure 2: Workflow of Data Processing NHMS 2022

3.0 FINDINGS

3.1 General Findings

Overall, 239 out of 240 schools participated in the survey, resulting in a 99.6% school response rate. The response rate for classes was 100% and the student's response rate was 89.4% (n=33,523). Thus, the overall response rate was 89.0%. Based on the state, the highest number of adolescents who participated in the survey were from Terengganu (95.9%), and the lowest was WP Putrajaya (83.4%) (Table 3.1.1). The geographic information system (GIS) on the mapping of selected secondary schools is shown in Figure 3.

Table 3.1.1: Response rate at student level, by state, 2022

State	Selected Schools	Eligible Adolescents	Completed OMR forms	Response Rate (%)
Johor	16	2336	2005	85.83
Kedah	16	2312	2172	93.94
Kelantan	16	2368	2138	90.29
Melaka	16	2373	1986	83.69
N. Sembilan	16	2422	2210	91.25
Pahang	16	2382	2171	91.14
Pulau Pinang	16	2300	2044	88.87
Perak	16	2384	2126	89.18
Perlis	16	2160	2004	92.78
Selangor	16	2366	2048	86.56
Terengganu	16	2314	2219	95.89
Sabah	16	2342	2086	89.07
Sarawak	16	2442	2189	89.64
WP Kuala Lumpur	16	2338	2114	90.42
WP Labuan	8	2267	2033	89.68
WP Putrajaya	8	2373	1978	83.35
Total	240	37479	33523	89.44

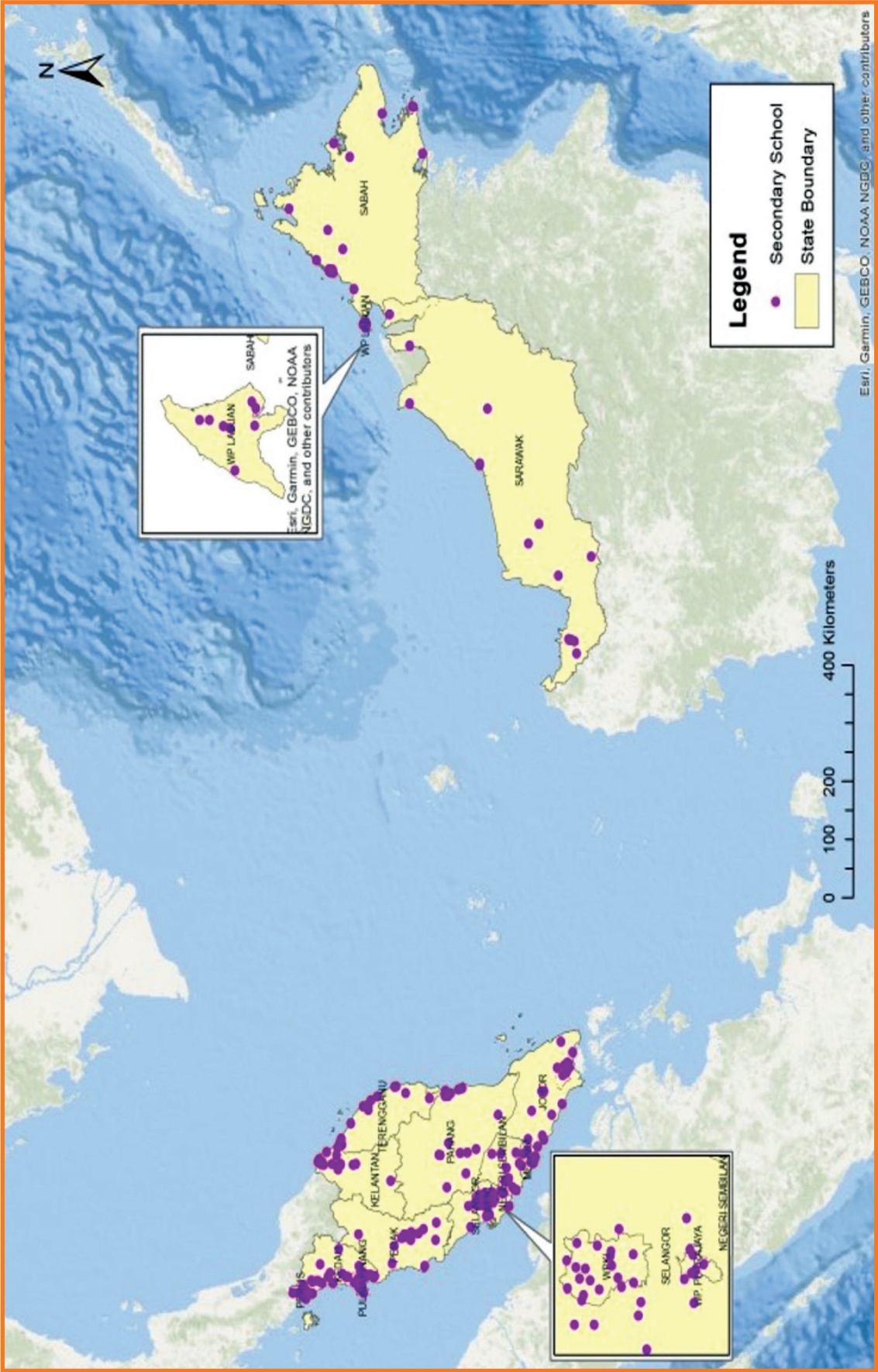


Figure 3: GIS mapping of the selected secondary schools

3.2 Alcohol Consumption

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3.2.1 Introduction

Annually, the harmful use of alcohol results in approximately 3 million deaths worldwide¹. Alcohol is responsible for 5.1% of the global burden of disease and injury, as measured by disability-adjusted life years (DALYs)¹. It is the main cause of premature death and disability in individuals aged 15 to 49, accounting for 10% of all deaths in this age group². Among adolescents and young adults (aged 10–24 years), the alcohol-attributable burden is the second largest among all risk factors contributing to disability-adjusted life years³. Alcohol use among adolescents is linked to road traffic accidents and other non-intentional injuries, violence, mental health problems, intentional self-harm and suicide, HIV and other infectious diseases, poor school performance and dropout, and poor employment prospects³.

3.2.2 Objectives

- To determine the prevalence of ever and current drinkers among adolescents.
- To describe the socio-demographic characteristics of ever and current drinkers among adolescents.
- To identify the age of alcohol drinking initiation among adolescents.
- To identify the sources of obtaining alcoholic beverages among adolescents.
- To identify the prevalence of drunkenness among adolescents who consume alcohol.
- To determine the frequency of social problems related to alcohol consumption among adolescents.

3.2.3 Variable definitions

- Drinking alcohol:** A “drink” is a glass of wine, tuak, lihing, bahar, ijuk or toddy; a can of beer, a small glass of liquor or mixed drink. Drinking alcohol does not include drinking a few sips of wine for religious purposes.
- Ever drinkers:** Those who had a history of alcohol consumption in their lifetime.
- Current drinkers:** Those who had at least a “drink” of alcohol in the past 30 days.
- Drunkenness:** When someone demonstrates signs such as staggering when walking, not being able to speak right and throwing up after consuming alcohol in a lifetime.
- Social problems:** Having trouble with family or friends, missed school or got into fights as a result of drinking alcohol in a lifetime.

3.2.4 Findings

Ever Alcohol Drinkers

The prevalence of ever alcohol drinkers among adolescents in Malaysia was 18.6% (95% CI: 16.06, 21.50). The states with the highest prevalence are Sarawak 44.9% (95% CI: 39.92, 49.90), Pulau Pinang 30.4% (95% CI: 19.30, 44.34) and Sabah 22.2% (95% CI: 14.85, 31.84) and W.P Kuala Lumpur 22.0% (95% CI: 13.63, 33.47). The state with the lowest prevalence is W.P Putrajaya 1.5% (95% CI: 1.06, 2.24). The ethnicity with the highest prevalence is Chinese 58.8% (95% CI: 56.20, 61.34) followed by Bumiputera Sarawak 49.7% (95% CI: 44.71, 54.77). (Table 3.2.1)

Current Alcohol Drinkers

The prevalence of current alcohol drinkers among adolescents was 7.4% (95% CI: 6.31, 8.68). The states with the highest prevalence are Sarawak 23.8 % (95% CI: 20.34, 27.54), Pulau Pinang 9.6% (95% CI: 6.27, 14.57) and Sabah 9.0% (95% CI: 5.52, 14.43). Form 5 adolescents 9.3% (95% CI: 7.47, 11.58) had a higher prevalence of current alcohol consumption compared to Form 1 adolescents 5.6% (95% CI: 4.52, 6.95). The ethnicity with the highest prevalence is Bumiputera Sarawak 29.8% (95% CI: 25.75, 34.26) and followed by Chinese 21.4% (95% CI: 19.07, 24.04). (Table 3.2.2)

Initiation of First Alcohol Use Before 14 years old

Among ever alcohol drinkers, 64.6% had their first alcoholic beverage before the age of 14 years. (Table 3.2.3)

Sources of Obtaining Alcoholic Beverages Among Current Alcohol Drinkers

Among current alcohol drinkers, most adolescents obtained their alcoholic beverages from their family 54.7% followed by 19.3% buying the beverages from a store, shop or street vendor. (Table 3.2.4)

Social Problems as a Result of Alcohol Drinking

Overall, majority (85.4%) of the adolescents did not get into trouble with family or friends, missed school or got into a fight as a result of drinking alcohol among ever alcohol drinkers. However, 14.7% got into these social problems 1 to 10 or more times. (Table 3.2.5)

Drunkenness

The prevalence of drunkenness among adolescents was 4.7% (95% CI: 4.0, 5.5). Among ever alcohol drinkers, 25.3% reported drunkenness in this survey.

Parental and peer drinking

Parental drinking among current alcohol drinkers was reported as 73.2%, while peer drinking was 86.1%.

3.2.5 Discussion

From this survey, the prevalence of ever drinkers (ever consumed alcohol in their lifetime) among adolescents in Malaysia was 18.6%. This prevalence has shown a downward trend from GSHS 2012⁴ (20.0%) to AHS 2017⁵ (19.3%). The prevalence of current drinkers reported in this survey was 7.4%, which is lower compared to AHS 2017 (10.2%) and GSHS 2012 (8.9%). Most adolescents (64.6%) had their first alcoholic drink before the age of 14 years old. In the year 2021, Thailand conducted the Global School Health Survey (GSHS) among adolescents aged 13 to 17 years old⁶. According to the survey, 56.5% of adolescents had their first drink before the age of 14, which is lower than the percentage in Malaysia. Nevertheless, Thailand had a higher percentage of current drinkers (28.2%) and drunkenness (29.1%) compared to Malaysia.

The main source of obtaining alcoholic beverages among current drinkers remained the same for all the adolescent health surveys, which was from their own families. Nevertheless, the percentage increased in 2022 to 54.7% (GSHS 2012: 34.6%; AHS 2017: 37.7%; AHS 2022: 54.7%). The next most common source of obtaining alcoholic beverages is by buying from a store, shop or a street vendor. The number of times (1 to more than 10 times) adolescents were involved in social problems increased from 2.5% in 2012 to 14.7% in 2022. In this year's survey, two questions were added that asked about parental drinking and peer drinking, which are important factors in determining adolescent alcohol use and initiation⁷.

3.2.6 Conclusion

According to this study, there has been a decline in the prevalence of adolescents who are ever and current alcohol drinkers. However, at 64.6%, the proportion of adolescents who drank alcohol for the first time before turning 14 years old remained high. As in earlier surveys, family members remained the primary source of acquiring alcoholic beverages. This is cause for concern because it can promote home-based underage drinking. An important indicator to support this is the percentage of parental drinking among the current drinkers, which stood at 73.2%. It is necessary to raise public knowledge of the negative effects of underage drinking, the development of addiction, future medical consequences, and psychosocial issues.

3.2.7 Recommendations

Given that adolescence is the age when adult habits and social standards are formed, it is essential to look into the issue of adolescent drinking. As alcohol has negative impacts on teenagers' development, our main goal is to prevent the onset of alcohol use at a young age. The detrimental effects of alcohol drinking at a young age should be made clear to parents and other caregivers through mass media. Enhance school-based prevention programmes in school with high rates of alcohol consumption to enable teachers to assess pupils for alcohol consumption and launch early intervention for such adolescents. Instead of stigmatising adolescents who consume alcohol, assistance should be made available.

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Table 3.2.1: Prevalence of ever alcohol drinkers among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	5270	383937	18.6	16.06	21.50
State					
Johor	407	48564	18.7	10.95	30.01
Kedah	167	11850	8.2	5.36	12.21
Kelantan	125	7169	6.4	4.51	9.14
Melaka	195	-	-	-	-
Negeri Sembilan	262	-	-	-	-
Pahang	220	-	-	-	-
Pulau Pinang	636	31656	30.4	19.30	44.34
Perak	368	29059	17.5	10.40	27.93
Perlis	110	1026	5.5	3.82	7.98
Selangor	298	-	-	-	-
Terengganu	125	5687	5.8	3.50	9.61
Sabah	439	44184	22.2	14.85	31.84
Sarawak	972	87496	44.9	39.92	49.90
WP Kuala Lumpur	483	22935	22.0	13.63	33.47
WP Labuan	395	1254	19.3	12.85	27.95
WP Putrajaya	31	185	1.5	1.06	2.24
Sex					
Male	2588	205052	19.9	17.07	23.17
Female	2682	178886	17.3	14.78	20.19
Form					
Form 1	990	71354	16.0	13.37	19.14
Form 2	1057	78726	18.3	15.57	21.36
Form 3	960	75910	18.3	15.39	21.57
Form 4	1101	77070	19.8	16.34	23.71
Form 5	1162	80877	21.2	17.56	25.43
Ethnicity					
Malay	897	52557	4.0	3.58	4.57
Chinese	2924	220101	58.8	56.20	61.34
Indian	225	18049	14.7	12.05	17.84
Bumiputera Sabah	438	27727	24.1	16.58	33.76
Bumiputera Sarawak	588	52596	49.7	44.71	54.77
Others	198	12906	28.4	21.46	36.46

Table 3.2.2: Prevalence of current alcohol drinkers among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	2009	152681	7.4	6.31	8.68
State					
Johor	149	-	-	-	-
Kedah	57	4063	2.8	1.65	4.70
Kelantan	43	2338	2.1	1.44	3.06
Melaka	60	-	-	-	-
Negeri Sembilan	103	-	-	-	-
Pahang	100	-	-	-	-
Pulau Pinang	201	10051	9.6	6.27	14.57
Perak	125	10249	6.2	3.58	10.45
Perlis	32	297	1.6	0.93	2.77
Selangor	102	-	-	-	-
Terengganu	40	-	-	-	-
Sabah	175	17973	9.0	5.52	14.43
Sarawak	510	46328	23.8	20.34	27.54
WP Kuala Lumpur	164	7586	7.3	4.54	11.45
WP Labuan	143	-	-	-	-
WP Putrajaya	5	-	-	-	-
Sex					
Male	1009	82829	8.1	6.76	9.57
Female	1000	69852	6.8	5.72	7.97
Form					
Form 1	337	24944	5.6	4.52	6.95
Form 2	405	32332	7.5	6.26	8.99
Form 3	342	29334	7.1	5.70	8.73
Form 4	435	30559	7.8	6.26	9.77
Form 5	490	35512	9.3	7.47	11.58
Ethnicity					
Malay	286	16788	1.3	1.08	1.55
Chinese	1033	80271	21.4	19.07	24.04
Indian	84	6748	5.5	3.97	7.57
Bumiputera Sabah	169	11127	9.7	6.55	14.11
Bumiputera Sarawak	347	31542	29.8	25.75	34.26
Others	90	6204	13.6	9.13	19.88

Table 3.2.3: Proportion of ever alcohol drinkers according to alcohol initiation age among adolescents in Malaysia, 2022 (N=5270)

Initiation age of alcohol drinking	Unweighted count	Percentage (%)
Below 14 years old	2976	64.6
14 years old and above	1541	35.4

Table 3.2.4: Usual sources of obtaining alcohol in the past 30 days among current drinkers among adolescents in Malaysia, 2022 (N=2009)

Sources of obtaining alcohol	Unweighted count	Percentage (%)
I bought from a store, shop or from a street vendor	386	19.3
I gave someone else money to buy it for me	50	2.4
I got it from my friend	221	13.1
I got it from my family	998	54.7
I stole it or got it without permission	24	1.3
I got it some other way	164	9.2

Table 3.2.5: Number of times (got into trouble with family or friends, missed school or got into a fight as a result of drinking alcohol) among ever alcohol drinkers (proportion) among adolescents in Malaysia, 2022 (N=5270)

Number of times	Unweighted count	Percentage (%)
0 times	4449	85.4
1 to 2 times	540	10.0
3 to 9 times	149	2.4
10 or more times	125	2.3

3.3 Dietary Behaviours

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3.3.1 Introduction

The changes in dietary practices are required across all age ranges, but adolescence should be a focus of particular attention because the changes in lifestyle and the development of dietary habits during that stage of life have striking effects¹. Poor dietary intake during this life stage is closely related to overweight and obesity, and unhealthy eating practices which lead to detrimental health effects later in life². Therefore, a study was conducted to examine dietary practices with regards to fruit and vegetable intakes, carbonated drinks, plain water, milk and milk products intake and fast food consumption among adolescents in Malaysia. Establishing and consuming a nutrient-dense diet during the transition from adolescence into young adulthood may protect against future chronic diseases, promote optimal health outcomes and to prevent excess weight gain³.

3.3.2 Objectives

- To describe the prevalence of adolescents who had gone hungry in the past 30 days.
- To describe the prevalence of fruit intakes of at least twice daily in the past 30 days among adolescents.
- To identify the prevalence of vegetable consumption of at least three times daily in the past 30 days.
- To identify the prevalence of fruit and vegetables consumption of at least five times daily in the past 30 days.
- To describe the prevalence of carbonated drink intake of at least once a day in the past 30 days.
- To describe the prevalence of plain water intake of less than 6 glasses per day in the past 30 days.
- To identify the prevalence of milk and milk product intakes of at least two times daily in the past 30 days.
- To identify the prevalence of fast food consumption of at least three days in the past 7 days.

3.3.3 Variable definitions

- Gone Hungry:** Adolescents who had gone hungry most of the time or always because there was not enough food at home for the past 30 days, or living without financial means to access enough food for active and healthy living.
- Fruit intakes:** Fruits intake of at least twice daily in the past 30 days, inclusive all types of fruits.
- Vegetable intakes:** Vegetable intakes of at least three times daily in the past 30 days.
- Plain water intake:** Includes mineral water, boiled water or tap water.

- Carbonated drinks intake:** carbonated drinks consumption of at least once daily in the past 30 days.
- Dairy product intake:** milk and milk product intakes at least two times daily in the past 30 days.
- Fast food intake:** Consuming food from fast food outlets at least three days in the past seven days.

3.3.4 Findings

Gone hungry

About 2.5% (95% CI: 2.30, 2.78) of adolescents reported being hungry most of the time or always because there was not enough food at home in the past 30 days (**Table 3.3.1**). The highest prevalence was from WP Labuan (4.1%, 95% CI: 2.97, 5.66), followed by Sarawak (3.3%, 95% CI: 2.65, 4.16) and Melaka (3.1%, 95% CI: 2.25, 4.38). Prevalence of being hungry was higher among females (3.3%, 95% CI: 2.91, 3.65) as compared to male counterparts (1.8%, 95% CI: 1.52, 2.11).

Fruit consumption

A total of 37.3% (95% CI: 36.20, 38.41) of adolescents consumed fruit at least twice daily in the past 30 days (**Table 3.3.2**). Adolescents in Sarawak (42.9%, 95% CI: 39.04, 46.83), followed by Terengganu (42.3%, 95% CI: 39.47, 45.28) and Kedah (42.3%, 95% CI: 40.12, 44.57) reported highest fruit intake in Malaysia. Males (39.0%, 95% CI: 37.65, 40.38) reported the significantly higher fruit intake than females (35.6%, 95% CI: 34.33, 36.88).

Vegetable consumption

About 27.1% (95% CI: 26.24, 27.89) of adolescents consumed vegetables at least three times daily in the past 30 days (**Table 3.3.3**). Adolescents in Sarawak (33.7%, 95% CI: 30.93, 36.67) reported the highest vegetable intake daily compared to other states, while adolescents in Perak (23.7%, 95% CI: 21.67, 25.94) was the lowest to consume vegetables. Males reported significantly higher vegetable intake (30.1%, 95% CI: 29.10, 31.13) compared to females (24.0%, 95% CI: 22.94, 25.11).

Fruits and vegetables intake

About 16.1% (95% CI: 15.43, 16.77) of adolescents consumed fruits and vegetables at least five times daily in the past 30 days (**Table 3.3.4**). Comparatively to other states, adolescents in Sarawak (21.0%, 95% CI: 18.29, 24.02) reported a higher consumption of fruits and vegetables at least five times daily, whereas those in Johor (13.6%, 95% CI: 11.49, 15.91) reported a lower consumption of fruits and vegetables. Males (18.0%, 95% CI: 17.23, 18.88) reported significantly higher consumption of fruits and vegetables than females (14.1%, 95% CI: 13.34, 14.97).

Never Consume Fruit

About 8.7% (95% CI: 8.08, 9.33) of adolescents reported never consume fruit in the past 30 days (**Table 3.3.5**). The prevalence of never consume fruit was highest in WP Labuan (13.4%, 95% CI: 11.16, 16.09), while it was lowest in Pulau Pinang (7.3%, 95% CI: 5.64, 9.30). Prevalence of

never consume fruit was 9.0% (95% CI: 8.28, 9.79) among males and 8.4% (95% CI: 7.62, 9.16) among females.

Never Consume Vegetable

About 8.6% (95% CI: 7.94, 9.21) of adolescents never consume vegetable in the past 30 days (**Table 3.3.5**). The highest prevalence of never consume vegetable in the past 30 days was in WP Labuan (11.7%, 95% CI: 9.11, 14.93) followed by WP Putrajaya (11.5%, 95% CI: 9.38, 13.94), while the lowest prevalence was in Sarawak (5.6%, 95% CI: 4.29, 7.38). Prevalence of never consume vegetable was 8.1% (95% CI: 7.41, 8.84) among males and 9.0% (95% CI: 8.22, 9.88) among females.

Never Consume Fruit and Vegetable

A total of 2.2% (95% CI: 1.90, 2.54) of adolescents never consume fruit and vegetable in the past 30 days (**Table 3.3.5**). The highest prevalence of never consume fruit and vegetable in the past 30 days was highest in WP Labuan (3.3%, 95% CI: 2.50, 4.31) while the lowest prevalence was in Sarawak (1.5%, 95% CI: 1.07, 2.17). Prevalence of never consume fruit and vegetable was 2.3% (95% CI: 1.99, 2.68) among males and 2.1% (95% CI: 1.72, 2.53) among females.

Carbonated soft drinks intake

Overall, 32.4% (95% CI: 30.93, 33.87) of adolescents consumed carbonated soft drinks at least once daily in the past 30 days (**Table 3.3.6**). The highest prevalence was contributed by adolescents in Sarawak (50.6%, 95% CI: 45.44, 55.70), followed by WP Labuan (46.5%, 95% CI: 42.12, 50.89) and Sabah (42.8% 95% CI: 37.83, 47.83). Males (34.3%, 95% CI: 32.55, 36.02) consumed carbonated soft drinks more frequently than females (30.5%, 95% CI: 29.01, 32.03).

Plain water intake

About 48.8% (95% CI: 47.83, 49.68) adolescents drank plain water less than six glasses per day in the past 30 days (**Table 3.3.7**). More than half of the adolescents in Terengganu (54.7%, 95% CI: 51.49, 57.91), Kelantan (53.4%, 95% CI: 49.88, 56.80), Sarawak (52.0%, 95% CI: 48.48, 55.44) and Sabah (51.1%, 95% CI: 47.72, 54.54) reported consuming plain water less than six glasses per day. The prevalence of plain water intake of less than six glasses per day among females (55.5%, 95% CI: 54.33, 56.61) was significantly higher than males (42.0%, 95% CI: 40.84, 43.23).

Milk and milk products intake

About 23.2% (95% CI: 22.39, 23.98) of adolescents consumed milk/milk products at least two times per day in the past 30 days (**Table 3.3.8**). Prevalence of milk/milk products consumption was lowest among adolescents in Johor (20.7%, 95% CI: 18.52, 23.10), while highest in WP Putrajaya (28.3%, 95% CI: 26.96, 29.77). Findings showed that the prevalence of milk/milk products consumption among females (23.5%, 95% CI: 22.46, 24.58) was slightly higher compared to males (22.9%, 95% CI: 21.83, 23.90).

Fast food intake

About 10.6% (95% CI: 9.97, 11.16) of adolescents consumed fast food at least three days in the past seven days (**Table 3.3.9**). Adolescents in WP Labuan (15.1%, 95% CI: 13.30, 17.12) reported the highest prevalence of fast food intake, while those in Johor (8.7%, 95% CI: 7.33, 10.34) reported the least. The prevalence of fast food intake was significantly higher among females (11.2%, 95% CI: 10.41, 12.04) compared to males (9.9%, 95% CI: 9.22, 10.64).

3.3.5 Discussions

The current findings reported a decreasing trend in the number of adolescents who were hungry due to lack of food at home. The prevalence decreased from 4.9% in 2012⁴ to 3.9% in 2017⁵, and further reduced to 2.5% in 2022. The prevalence of severe food insecurity in Malaysia was found to be lower than the pooled prevalence from the Global School-based Student Health Surveys (GSHS) performed between 2009 and 2015 in low, lower middle, upper middle and high income countries⁶. However, inconsistent trends were observed in the consumption of fruits and vegetables. While consumption of fruits at least twice daily increased from 44.0% in 2012⁴ to 46.8% in 2017⁵, it reduced to 37.3% in 2022. Similar trend was found in consumption of vegetables at least three times daily. Consumption of fruit and vegetables at least five times daily also showed a decreasing trend, from 28.7% in 2012⁴ to 23.5% in 2017⁵, and further reduced to 16.1% in 2022. The WHO recommendations for daily consumption of fruits and vegetables were consistently low in low-and-middle-income countries (LMICs)⁷. The prevalence of carbonated soft drink consumption at least once daily increased from 29.4% in 2012⁴ to 36.9% in 2017⁵, but decreased to 32.4% in 2022. The current finding was lower than the overall prevalence of carbonated soft drink consumption (43.8%) in LMICs⁸. The prevalence of milk/milk products consumption of at least two times reduced from 31.0% in 2017⁵ to 23.2% in 2022. Prevalence of fast food intake of at least three days in the past seven days was increased from 6.0% in 2012⁴ to 11.1% in 2017⁵, but slightly reduced to 10.6% in 2022.

3.3.6 Conclusion

There were 2.5% of adolescents who reported being hungry due to lack of food at homes. Prevalence of adolescents reported consuming fruits at least twice daily and vegetables at least three times daily was 37.3% and 27.1%, respectively. However, only 16.1% of them consumed fruits and vegetables five times daily. About 48.8% of adolescents reported drinking plain water less than 6 glasses and 23.2% consumed milk/milk products at least two times daily. The consumption of carbonated soft drinks of at least once daily in the past 30 days was reported at 32.4% while 10.6% consumed food from fast food restaurants for at least three days in the past seven days.

3.3.7 Recommendations

The research finding shows that there is a crucial need to alter the behaviours of Malaysian adolescents in order to preparing them for healthier adulthood. Poor dietary behaviours developed during adolescence may lead to diet-related diseases in later years. Behaviour modification is the key recommendation suggested for improving healthy eating and lifestyle. It is necessary to improve dietary behaviour by encouraging them to consume nutritious foods such as fruits, vegetables, milk and milk products. This may be achieved through strengthening school-based nutrition interventions, using social marketing approach and mobilising families and communities into support. It is crucial to extend school-based nutrition intervention programmes, such as Program Hidangan Berkhasiat di Sekolah (HiTS) to all schools (beginning with from pre-schools). Aggressive promotion of healthy foods and the benefits of eating it should be made in all platforms, including social media. Intersectoral collaboration through various sectors is essential for the implementation of these strategies, so that nutrition programmes could be incorporated into their policies and improve access and availability of healthy foods in schools, food premises and at home.

Table: Dietary behaviour trend among adolescents in Malaysia

	NHMS 2012	NHMS 2017	NHMS 2022
Most of the time or always went hungry	4.9	3.9	2.5
Fruits intake of at least twice daily	44.0	46.8	37.3
Vegetables intake of at least three times daily	29.8	36.0	27.1
Fruits and vegetables intake of at least five times daily	28.7	23.5	16.1
Carbonated soft drinks consumption at least once daily	29.4	36.9	32.4
Milk/milk products intake of at least two times daily	Not reported	31.0	23.2
Fast food intake of at least three days in the past seven days	6.0	11.1	10.6

3.3.8 References

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Table 3.3.1: Prevalence of adolescents in Malaysia who most of the time or always went hungry in the past 30 days because there was not enough food in his/her home

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	869	52388	2.5	2.30	2.78
State					
Johor	41	5541	2.1	1.50	3.02
Kedah	51	3452	2.4	1.71	3.29
Kelantan	48	2466	2.2	1.62	3.02
Melaka	63	2035	3.1	2.25	4.38
Negeri Sembilan	66	2567	2.9	2.25	3.82
Pahang	61	2785	2.7	2.13	3.51
Pulau Pinang	40	2103	2.0	1.41	2.85
Perak	33	2311	1.4	0.98	1.97
Perlis	36	369	1.9	1.26	2.85
Selangor	65	11462	2.9	2.19	3.90
Terengganu	33	1443	1.5	0.94	2.34
Sabah	58	5689	2.7	2.15	3.51
Sarawak	74	6484	3.3	2.65	4.16
WP Kuala Lumpur	63	3065	2.9	2.13	4.00
WP Labuan	80	267	4.1	2.97	5.66
WP Putrajaya	57	349	2.9	2.16	3.87
Sex					
Male	289	18575	1.8	1.52	2.11
Female	580	33813	3.3	2.91	3.65
Form					
Form 1	192	10671	2.4	1.98	2.82
Form 2	192	11658	2.7	2.28	3.18
Form 3	178	11118	2.7	2.14	3.31
Form 4	133	8437	2.2	1.71	2.71
Form 5	174	10503	2.8	2.31	3.28
Ethnicity					
Malay	625	36231	2.8	2.51	3.06
Chinese	69	4524	1.2	0.85	1.70
Indian	46	2697	2.2	1.52	3.11
Bumiputera Sabah	59	3755	3.2	2.35	4.36
Bumiputera Sarawak	44	3600	3.4	2.69	4.30
Others	26	1580	3.4	1.91	5.99

Table 3.3.2: Prevalence of fruit intake of at least twice daily in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	12655	774014	37.3	36.20	38.41
State					
Johor	658	86353	33.2	30.02	36.59
Kedah	920	61544	42.3	40.12	44.57
Kelantan	891	46461	41.8	39.51	44.16
Melaka	762	24703	38.2	33.56	43.01
Negeri Sembilan	865	34395	39.4	35.84	43.03
Pahang	770	36500	35.8	33.17	38.53
Pulau Pinang	627	33096	31.6	26.20	37.60
Perak	774	60841	36.7	32.63	40.86
Perlis	831	8044	41.5	38.54	44.56
Selangor	685	131342	33.5	30.01	37.20
Terengganu	934	41210	42.3	39.47	45.28
Sabah	832	82897	40.0	36.81	43.34
Sarawak	928	83658	42.9	39.04	46.83
WP Kuala Lumpur	712	36102	34.5	30.74	38.41
WP Labuan	725	2306	35.5	34.12	36.89
WP Putrajaya	741	4564	37.9	35.75	40.03
Sex					
Male	6064	404616	39.0	37.65	40.38
Female	6591	369398	35.6	34.33	36.88
Form					
Form 1	3058	193968	43.0	41.42	44.58
Form 2	2782	172715	39.9	38.24	41.50
Form 3	2371	151781	36.3	34.41	38.26
Form 4	2366	132900	34.0	32.06	35.94
Form 5	2078	122650	32.1	30.44	33.90
Ethnicity					
Malay	9161	514475	39.4	38.45	40.31
Chinese	1261	91107	24.2	22.10	26.52
Indian	641	50890	41.1	38.01	44.34
Bumiputera Sabah	664	46364	39.6	36.34	43.01
Bumiputera Sarawak	583	51074	48.3	45.68	50.93
Others	345	20104	43.3	38.04	48.78

Table 3.3.3: Prevalence of vegetables intake of at least three times daily in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	8762	561456	27.1	26.24	27.89
State					
Johor	513	65627	25.2	22.56	28.10
Kedah	519	35492	24.4	22.89	26.02
Kelantan	532	28661	25.8	24.10	27.51
Melaka	519	17110	26.4	24.37	28.64
Negeri Sembilan	632	25389	29.1	27.89	30.30
Pahang	517	24458	24.0	20.76	27.57
Pulau Pinang	521	27337	26.1	23.05	29.44
Perak	489	39386	23.7	21.67	25.94
Perlis	481	4697	24.2	21.94	26.64
Selangor	528	104083	26.6	24.53	28.69
Terengganu	585	25943	26.7	25.15	28.25
Sabah	662	66369	32.1	27.74	36.69
Sarawak	729	65811	33.7	30.93	36.67
WP Kuala Lumpur	525	26349	25.2	23.32	27.10
WP Labuan	519	1665	25.6	23.76	27.59
WP Putrajaya	491	3081	25.6	22.81	28.51
Sex					
Male	4514	312337	30.1	29.10	31.13
Female	4248	249119	24.0	22.94	25.11
Form					
Form 1	2046	133655	29.6	27.96	31.34
Form 2	1905	125255	28.9	27.41	30.43
Form 3	1648	109491	26.2	24.55	27.91
Form 4	1682	100138	25.6	24.08	27.19
Form 5	1481	92918	24.4	22.81	25.97
Ethnicity					
Malay	5656	325212	24.9	24.14	25.66
Chinese	1385	104074	27.7	25.99	29.45
Indian	518	41867	33.8	30.25	37.64
Bumiputera Sabah	522	37390	32.0	27.83	36.38
Bumiputera Sarawak	434	36981	35.0	31.32	38.80
Others	247	15933	34.3	29.53	39.51

Table 3.3.4: Prevalence of fruits and vegetables intake of at least five times daily in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	5338	334172	16.1	15.43	16.77
State					
Johor	275	35256	13.6	11.49	15.91
Kedah	351	24075	16.6	15.35	17.84
Kelantan	342	18495	16.6	15.28	18.07
Melaka	323	10638	16.4	14.45	18.64
Negeri Sembilan	381	15424	17.6	15.92	19.50
Pahang	294	13990	13.7	11.87	15.80
Pulau Pinang	277	14624	13.9	11.71	16.47
Perak	311	25118	15.1	13.29	17.16
Perlis	327	3204	16.5	14.65	18.57
Selangor	285	56256	14.3	12.70	16.15
Terengganu	383	17039	17.5	16.05	19.05
Sabah	411	41000	19.8	16.66	23.27
Sarawak	452	40979	21.0	18.29	24.02
WP Kuala Lumpur	302	15147	14.4	12.77	16.31
WP Labuan	322	1031	15.9	14.19	17.72
WP Putrajaya	302	1896	15.7	13.66	18.02
Sex					
Male	2774	187384	18.0	17.23	18.88
Female	2564	146787	14.1	13.34	14.97
Form					
Form 1	1308	85412	18.9	17.72	20.13
Form 2	1190	77134	17.8	16.62	19.00
Form 3	985	63490	15.2	13.84	16.61
Form 4	983	55820	14.3	13.06	15.56
Form 5	872	52315	13.7	12.63	14.87
Ethnicity					
Malay	3567	200714	15.3	14.76	15.96
Chinese	657	47815	12.7	11.17	14.41
Indian	326	26131	21.1	18.14	24.43
Bumiputera Sabah	336	24367	20.8	17.86	24.13
Bumiputera Sarawak	290	25262	23.8	20.81	27.18
Others	162	9882	21.3	17.01	26.33

Table 3.3.5: Prevalence of adolescents who did not consume fruit, vegetable or both in the past 30 days in Malaysia, 2022																
Socio-demographic characteristics		Never consume fruit					Never consume vegetable					Never consume fruit and vegetable				
		Unweighted count	Estimated population	Prevalence (%)	95 % CI		Unweighted count	Estimated population	Prevalence (%)	95 % CI		Unweighted count	Estimated population	Prevalence (%)	95 % CI	
					Lower	Upper				Lower	Upper				Lower	Upper
MALAYSIA		2905	180130	8.7	8.08	9.33	3060	177494	8.6	7.94	9.21	755	45650	2.2	1.90	2.54
State																
	Johor	185	23941	9.2	7.26	11.62	157	21085	8.1	6.67	9.83	40	5273	2.0	1.28	3.19
	Kedah	172	11889	8.2	6.02	11.02	211	14322	9.9	8.08	11.96	47	3315	2.3	1.55	3.34
	Kelantan	165	8906	8.0	6.62	9.68	210	10429	9.4	8.04	10.91	45	2238	2.0	1.52	2.67
	Melaka	163	5404	8.4	6.93	10.03	201	6394	9.9	7.98	12.18	50	1599	2.5	1.70	3.57
	Negeri Sembilan	180	7230	8.3	6.89	9.91	185	7248	8.3	6.71	10.23	48	1947	2.2	1.52	3.24
	Pahang	199	9321	9.1	7.51	11.09	221	10474	10.3	8.58	12.27	59	2794	2.7	2.29	3.28
	Pulau Pinang	142	7599	7.3	5.64	9.30	144	7573	7.2	4.93	10.50	39	2031	1.9	1.34	2.78
	Perak	156	12360	7.4	5.68	9.70	215	16125	9.7	7.88	11.94	45	3542	2.1	1.40	3.24
	Perlis	168	1700	8.8	7.36	10.43	196	1855	9.6	8.33	10.95	47	470	2.4	1.71	3.43
	Selangor	181	34118	8.7	6.81	11.07	189	34848	8.9	6.85	11.46	52	9979	2.5	1.55	4.16
	Terengganu	192	8477	8.7	7.28	10.39	207	8953	9.2	7.75	10.89	53	2321	2.4	1.66	3.42
	Sabah	211	21091	10.2	8.27	12.48	153	15426	7.4	5.59	9.87	41	4270	2.1	1.27	3.32
	Sarawak	189	17256	8.8	7.64	10.22	123	11003	5.6	4.29	7.38	32	2978	1.5	1.07	2.17
	WP Kuala Lumpur	179	8974	8.6	6.95	10.52	192	9617	9.2	7.10	11.80	48	2416	2.3	1.56	3.40
	WP Labuan	267	873	13.4	11.16	16.09	235	761	11.7	9.11	14.93	67	214	3.3	2.50	4.31
	WP Putrajaya	156	993	8.2	6.12	11.01	221	1382	11.5	9.38	13.94	42	265	2.2	1.73	2.79
Sex																
	Male	1413	93435	9.0	8.28	9.79	1343	83959	8.1	7.41	8.84	380	23978	2.3	1.99	2.68
	Female	1492	86696	8.4	7.62	9.16	1717	93535	9.0	8.22	9.88	375	21672	2.1	1.72	2.53
Form																
	Form 1	717	43490	9.6	8.70	10.67	797	46397	10.3	9.23	11.44	204	13096	2.9	2.34	3.58
	Form 2	598	37453	8.6	7.79	9.58	649	40020	9.2	8.33	10.23	148	9032	2.1	1.67	2.59
	Form 3	555	35640	8.5	7.51	9.66	569	34085	8.2	7.25	9.16	132	7690	1.8	1.47	2.29
	Form 4	578	34567	8.8	7.93	9.84	585	30682	7.8	6.81	9.03	158	9383	2.4	1.87	3.06
	Form 5	457	28981	7.6	6.61	8.71	460	26310	6.9	6.09	7.80	113	6449	1.7	1.33	2.14
Ethnicity																
	Malay	2110	121941	9.3	8.62	10.10	2523	139679	10.7	10.06	11.36	617	35429	2.7	2.32	3.16
	Chinese	301	22521	6.0	5.11	7.01	158	10383	2.8	2.22	3.43	45	2946	0.8	0.54	1.13
	Indian	128	10924	8.8	6.95	11.15	108	9325	7.5	5.96	9.49	28	2536	2.0	1.35	3.10
	Bumiputera Sabah	180	11039	9.4	7.62	11.63	131	8809	7.5	5.37	10.46	31	2382	2.0	1.19	3.46
	Bumiputera Sarawak	104	8482	8.0	6.29	10.18	66	5214	4.9	3.48	6.94	15	1030	1.0	0.56	1.69
	Others	82	5224	11.3	7.84	15.91	74	4083	8.8	6.30	12.17	19	1328	2.9	1.58	5.13

Table 3.3.6: Prevalence of carbonated soft drinks intake of at least once a day in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	10614	671960	32.4	30.93	33.87
State					
Johor	567	74778	28.7	25.91	31.74
Kedah	596	40427	27.8	24.62	31.26
Kelantan	677	36496	32.8	29.70	36.10
Melaka	595	19544	30.2	26.43	34.29
Negeri Sembilan	677	27547	31.6	27.77	35.59
Pahang	630	29975	29.4	26.06	33.02
Pulau Pinang	428	22556	21.5	16.82	27.17
Perak	592	46437	28.0	24.52	31.68
Perlis	564	5522	28.5	24.98	32.23
Selangor	602	116384	29.7	24.49	35.48
Terengganu	614	27083	27.8	23.89	32.17
Sabah	883	88492	42.8	37.83	47.83
Sarawak	1097	98522	50.6	45.44	55.70
WP Kuala Lumpur	631	31949	30.5	25.09	36.56
WP Labuan	943	3020	46.5	42.12	50.89
WP Putrajaya	518	3228	26.8	21.25	33.15
Sex					
Male	5235	355437	34.3	32.55	36.02
Female	5379	316523	30.5	29.01	32.03
Form					
Form 1	2511	159187	35.3	33.40	37.21
Form 2	2468	160249	37.0	34.78	39.22
Form 3	2007	134678	32.2	30.03	34.50
Form 4	1978	115328	29.5	27.19	31.91
Form 5	1650	102519	26.9	24.95	28.88
Ethnicity					
Malay	7193	419154	32.1	30.75	33.44
Chinese	1101	80501	21.4	18.76	24.32
Indian	535	44109	35.7	32.21	39.30
Bumiputera Sabah	753	49260	42.1	37.45	46.89
Bumiputera Sarawak	680	58911	55.8	50.75	60.81
Others	352	20025	43.2	38.46	47.99

Table 3.3.7: Prevalence of plain water intake of less than 6 glasses daily in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	16134	1011600	48.8	47.83	49.68
State					
Johor	949	123127	47.4	44.57	50.16
Kedah	1080	71167	49.0	44.11	53.86
Kelantan	1149	59352	53.4	49.88	56.80
Melaka	898	29032	44.9	41.71	48.05
Negeri Sembilan	1011	39680	45.4	41.81	49.13
Pahang	1063	50366	49.4	46.62	52.20
Pulau Pinang	935	47756	45.6	40.41	50.96
Perak	1086	82716	49.8	46.90	52.71
Perlis	929	8856	45.8	42.90	48.64
Selangor	994	187047	47.7	45.88	49.62
Terengganu	1218	53254	54.7	51.49	57.91
Sabah	1066	105840	51.1	47.72	54.54
Sarawak	1158	101371	52.0	48.48	55.44
WP Kuala Lumpur	910	44342	42.4	38.71	46.09
WP Labuan	916	2916	44.9	42.76	47.04
WP Putrajaya	772	4778	39.6	35.74	43.69
Sex					
Male	6386	435889	42.0	40.84	43.23
Female	9748	575711	55.5	54.33	56.61
Form					
Form 1	3529	223169	49.5	48.03	50.89
Form 2	3405	216985	50.1	48.30	51.88
Form 3	3153	208521	49.9	48.19	51.59
Form 4	3216	188780	48.3	46.61	49.94
Form 5	2831	174144	45.7	43.82	47.49
Ethnicity					
Malay	11296	648546	49.7	48.59	50.71
Chinese	2249	168430	44.8	42.49	47.16
Indian	718	57502	46.5	43.29	49.71
Bumiputera Sabah	822	57916	49.5	46.28	52.71
Bumiputera Sarawak	657	54717	51.7	48.28	55.19
Others	392	24487	52.8	47.48	58.02

Table 3.3.8: Prevalence of milk and milk products intake of at least twice daily in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	8047	480850	23.2	22.39	23.98
State					
Johor	409	53874	20.7	18.52	23.10
Kedah	502	33334	22.9	20.37	25.70
Kelantan	456	23499	21.1	19.10	23.30
Melaka	511	16721	25.9	23.56	28.30
Negeri Sembilan	579	22812	26.1	23.19	29.31
Pahang	538	25233	24.8	22.43	27.27
Pulau Pinang	435	22437	21.4	18.27	24.97
Perak	483	37529	22.6	20.21	25.21
Perlis	501	4902	25.3	22.86	27.91
Selangor	471	89811	22.9	20.11	26.01
Terengganu	507	22238	22.9	21.36	24.43
Sabah	439	43419	21.0	19.27	22.81
Sarawak	594	52733	27.1	25.25	28.93
WP Kuala Lumpur	543	27229	26.0	23.25	28.96
WP Labuan	514	1668	25.7	22.97	28.56
WP Putrajaya	565	3414	28.3	26.96	29.77
Sex					
Male	3672	236998	22.9	21.83	23.90
Female	4375	243853	23.5	22.46	24.58
Form					
Form 1	1849	111717	24.8	23.46	26.15
Form 2	1721	103509	23.9	22.28	25.60
Form 3	1553	96674	23.1	21.60	24.74
Form 4	1552	87484	22.4	20.87	23.93
Form 5	1372	81465	21.4	20.04	22.72
Ethnicity					
Malay	5719	314444	24.1	23.27	24.90
Chinese	909	62381	16.6	15.04	18.29
Indian	470	38201	30.9	27.75	34.21
Bumiputera Sabah	383	24811	21.2	18.64	24.01
Bumiputera Sarawak	350	29679	28.1	25.37	30.93
Others	216	11335	24.5	20.75	28.61

Table 3.3.9: Prevalence of fast food intake of at least 3 days in the past 7 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	3648	219003	10.6	9.97	11.16
State					
Johor	176	22692	8.7	7.33	10.34
Kedah	248	16300	11.2	9.40	13.32
Kelantan	212	11281	10.1	8.49	12.07
Melaka	192	6309	9.8	7.93	11.95
Negeri Sembilan	226	9247	10.6	8.95	12.52
Pahang	217	10378	10.2	8.48	12.18
Pulau Pinang	194	10178	9.7	7.93	11.87
Perak	208	16255	9.8	8.42	11.35
Perlis	184	1772	9.1	7.82	10.67
Selangor	233	43270	11.0	8.99	13.49
Terengganu	219	9799	10.1	8.66	11.68
Sabah	266	26412	12.8	11.23	14.48
Sarawak	239	21037	10.8	9.20	12.62
WP Kuala Lumpur	229	11341	10.8	8.82	13.24
WP Labuan	304	982	15.1	13.30	17.12
WP Putrajaya	301	1749	14.5	10.98	18.94
Sex					
Male	1632	102756	9.9	9.22	10.64
Female	2016	116246	11.2	10.41	12.04
Form					
Form 1	826	51610	11.4	10.38	12.59
Form 2	750	45097	10.4	9.53	11.36
Form 3	686	44420	10.6	9.52	11.85
Form 4	712	39378	10.1	8.95	11.31
Form 5	674	38497	10.1	9.07	11.22
Ethnicity					
Malay	2671	151470	11.6	10.96	12.26
Chinese	307	21119	5.6	4.86	6.48
Indian	195	15048	12.2	10.22	14.43
Bumiputera Sabah	235	15453	13.2	10.95	15.85
Bumiputera Sarawak	128	10020	9.5	7.86	11.40
Others	112	5892	12.7	10.15	15.77

3.4 Nutritional Status

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3.4.1 Introduction

Adolescence is a unique phase of human development for individuals between the ages of 10 and 19 years old, as it caters to rapid growth, as well as sexual and behavioural changes. Good nutrition during adolescence is critical to address current nutritional needs and to fill nutrient gaps that have occurred during childhood¹. The nutritional status of adolescents is assessed using anthropometric measurements (weight and height) and interpreted using WHO 2007 Growth Reference Data for 5-19 years². The indicators include stunting, thinness, overweight and obesity.

3.4.2 Objectives

- To determine the prevalence of stunting among adolescents.
- To determine the prevalence of thinness among adolescents.
- To determine the prevalence of overweight and obesity among adolescents.

3.4.3 Variable definitions

- Body mass index (BMI):** commonly used to determine weight status. BMI is calculated by dividing a person's weight in kilograms by the square of height in meters.
- Height for age z-score (HAZ):** an index used to assess how a child's height compares to the expected height of a healthy child of the same age and sex based on the WHO 2007 Growth reference data for 5-19 years.
- BMI for age z-score (BAZ):** an index used to assess BMI is age- and sex-specific compares to the BMI of a healthy child of the same age and sex based on the WHO 2007 Growth reference data for 5-19 years.
- Stunting:** Those who have their HAZ more than two standard deviations below the WHO Child Growth Standards median(<-2SD).
- Thinness:** Those who have their BAZ more than two standard deviations below the WHO Child Growth Standards median(<-2SD).
- Overweight:** Those who have their BAZ is more than one standard deviations to two standard deviations above the WHO Child Growth Standards median (>+1SD to ≤+2SD).
- Obesity:** Those who have their BAZ more than two standard deviations above the WHO Child Growth Standards median(>+2SD).

3.4.4 Findings

Height-for-Age z-score

The prevalence of stunting among adolescents was 6.8% (95% CI: 6.33, 7.36). Adolescents in Sabah [10.7% (95% CI: 8.59, 13.14)] showed the highest prevalence of stunting while Selangor [5.2%, (95% CI: 3.60, 7.33)] and WP Kuala Lumpur [5.2%, (95% CI: 4.05, 6.65)] had the lowest prevalence in Malaysia. Females [8.5%, (95% CI: 7.88, 9.23)] showed higher prevalence compared to males [5.1%, (95% CI: 4.56, 5.76)]. (Table 3.4.1).

BMI -for-Age z-score

According to the WHO 2007 Growth Reference Data for 5-19 years, the national prevalence of thinness among adolescents was 8.3% (95% CI: 7.94, 8.76). Among the states, Negeri Sembilan [9.8%, (95% CI: 8.06, 11.83)] and Pulau Pinang [9.8%, (95% CI: 7.78, 12.19)] showed the highest prevalence of thinness and the lowest were WP Labuan [6.1%, (95% CI: 4.37, 8.33)] and Sarawak [6.1%, (95% CI: 4.83, 7.70)]. The data showed that the prevalence of thinness was significantly higher among males [10.9%, (95% CI: 10.25, 11.57)] compared to females [5.8%, (95% CI: 5.34, 6.27)]. (Table 3.4.2).

Overweight and Obesity

The national prevalence of overweight (BMI-for-age: >+1SD to ≤+2SD) was 16.2% (95% CI: 15.67, 16.83), with Sarawak having the highest prevalence at 17.8% (95% CI: 16.18, 19.62) while the lowest was Sabah at 14.3% (95% CI: 12.67, 16.14). Comparing the sexes, females had a higher prevalence at 16.5% (95% CI: 15.78, 17.23)] compared to males [16.0% (95% CI: 15.14, 16.87)]. (Table 3.4.3). For obesity (BMI-for-age:>+2SD), the national prevalence was 14.3% (95% CI: 13.66, 14.89), with Perlis the highest at 18.0% (95% CI: 16.28, 19.85) and Sabah the lowest at 10.8% (95% CI: 9.22, 12.64). Between the sexes, males had a higher prevalence of obesity at 17.1% (95% CI: 16.30, 18.00) compared to females [11.4% (95% CI: 10.73, 12.09)]. (Table 3.4.4).

3.4.5 Discussion

The findings from this study showed that the prevalence of stunting among adolescents aged 13-17 years old was 6.8%. It can be noted that there has been a gradual decrease in the prevalence of stunting among adolescents in Malaysia, as the prevalence was 10.4% in 2012³ and 8.5% in 2017.⁴ The prevalence of thinness reported in this study was 8.3%. The prevalence increased compared to a prevalence of 7.0% in 2012³ and 6.5% in 2017.⁴ However, the prevalence of thinness in this study was lower compared to Thailand (8.4%)⁵ and the Philippines (11.3%)⁶ but higher than Brunei (4.3%).⁷

The findings from this study indicated that the prevalence of overweight was 16.2%. There has been a steady increase in the prevalence of overweight from 14.0% in 2012 to 15.2% in 2017 and 16.2% in 2022. In comparison to ASEAN countries, the current prevalence is lower

than Brunei (35.6%)⁷ and Thailand (18.9%)⁵ but higher than Vietnam (10.6%)⁸ and the Philippines (12.6%)⁶. The prevalence of obesity in this study was 14.3%. There has been a gradual increase in the prevalence of obesity from 10.6%³ to 13.3%⁴ and to 14.3% in 2022. In comparison with neighbouring countries, the current prevalence of 14.3% is higher than Vietnam (1.9%)⁸, the Philippines (3.7%)⁶ and Thailand (6.6%)⁵ but lower compared to Brunei (18.1%)⁷.

3.4.6 Conclusion

Overall, the prevalence of overweight and obesity totalling 30.5% was higher than thinness (8.3%) and stunting (6.8%). The prevalence of overweight was highest in Sarawak, among females, Form Two adolescents and Bumiputera Sarawak adolescents; whereas obesity was most prevalent in Perlis, among males, Form One adolescents and Bumiputera Sarawak adolescents. On the other hand, thinness was highest in Negeri Sembilan and Pulau Pinang, among males, Form Five adolescents and Indian adolescents; whereas stunting was highest in Sabah, among females, Form Five adolescents and Bumiputera Sabah adolescents. It can be concluded that Malaysia is facing a dual burden of malnutrition among its adolescents aged 13 – 17 years, with overnutrition appearing to be a larger problem than undernutrition. Therefore, appropriate actions to address these issues need to be undertaken the soonest.

3.4.7 Recommendations

Based on the findings, the prevalence of double burden of malnutrition still exists among Malaysian adolescents aged 13 to 17 years. Therefore, the integration of targeted interventions and policies is required to simultaneously address both undernutrition and the increasing rates of overweight and obesity among adolescents.

Evidence-based nutrition-sensitive interventions, inclusive of diet counselling and nutrition education provided through school-based platforms, adolescent youth centres/peer education and technology-based platforms should be strengthened. A comprehensive intervention such as MyBFF@school (an intervention consisting of nutrition education, physical activity and motivational component) could be implemented nationwide with the support of the Ministry of Education.

3.4.8 References

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Table: Nutritional Status Trend in Malaysia

	NHMS 2012	NHMS 2017	NHMS 2022
stunting	10.4	8.5	6.8
thinness	7.0	6.5	8.3
overweight	14.0	15.2	16.2
obese	10.6	13.3	14.3

Table 3.4.1: Prevalence of stunting (HAZ <-2SD) among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	2407	141692	6.8	6.33	7.36
State					
Johor	114	15047	5.8	4.56	7.32
Kedah	169	10944	7.5	6.58	8.59
Kelantan	196	9489	8.5	7.27	10.01
Melaka	140	4512	7.0	5.64	8.60
Negeri Sembilan	127	5102	5.8	4.94	6.90
Pahang	163	7526	7.4	6.00	9.05
Pulau Pinang	111	5547	5.3	3.78	7.40
Perak	150	10931	6.6	5.51	7.86
Perlis	154	1451	7.5	6.51	8.59
Selangor	112	20193	5.2	3.60	7.33
Terengganu	203	8837	9.1	7.85	10.49
Sabah	217	22092	10.7	8.59	13.14
Sarawak	156	13378	6.9	5.63	8.37
WP Kuala Lumpur	116	5446	5.2	4.05	6.65
WP Labuan	167	506	7.8	5.86	10.38
WP Putrajaya	112	691	5.7	4.59	7.18
Sex					
Male	817	53181	5.1	4.56	5.76
Female	1590	88511	8.5	7.88	9.23
Form					
Form 1	333	21354	4.7	4.09	5.47
Form 2	385	23688	5.5	4.72	6.32
Form 3	421	26101	6.2	5.30	7.34
Form 4	577	30140	7.7	6.79	8.73
Form 5	691	40409	10.6	9.63	11.67
Ethnicity					
Malay	1819	99800	7.6	7.09	8.22
Chinese	153	9708	2.6	2.05	3.24
Indian	71	4904	4.0	2.81	5.56
Bumiputera Sabah	180	13696	11.7	9.63	14.18
Bumiputera Sarawak	105	8738	8.3	6.38	10.70
Others	79	4846	10.5	7.83	13.83

Table 3.4.2: Prevalence of thinness (BAZ <-2SD) among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	2665	172808	8.3	7.94	8.76
State					
Johor	171	21817	8.4	7.56	9.29
Kedah	179	12489	8.6	6.91	10.68
Kelantan	158	8799	7.9	6.72	9.33
Melaka	136	4596	7.1	5.93	8.55
Negeri Sembilan	212	8538	9.8	8.06	11.83
Pahang	198	9448	9.3	7.81	11.01
Pulau Pinang	199	10202	9.8	7.78	12.19
Perak	159	13387	8.1	6.71	9.68
Perlis	174	1710	8.8	7.58	10.29
Selangor	186	36975	9.5	8.41	10.62
Terengganu	157	7009	7.2	6.24	8.32
Sabah	158	15872	7.7	6.12	9.54
Sarawak	132	11857	6.1	4.83	7.70
WP Kuala Lumpur	175	8826	8.4	7.43	9.54
WP Labuan	126	391	6.1	4.37	8.33
WP Putrajaya	145	892	7.4	5.78	9.51
Sex					
Male	1642	112833	10.9	10.25	11.57
Female	1023	59974	5.8	5.34	6.27
Form					
Form 1	481	33070	7.3	6.60	8.16
Form 2	509	33208	7.7	6.88	8.54
Form 3	515	34455	8.3	7.45	9.13
Form 4	610	36076	9.2	8.30	10.26
Form 5	550	36000	9.5	8.44	10.60
Ethnicity					
Malay	1875	111511	8.5	8.08	9.04
Chinese	366	27981	7.5	6.60	8.40
Indian	195	16103	13.0	11.28	15.02
Bumiputera Sabah	112	8735	7.5	5.77	9.62
Bumiputera Sarawak	58	4807	4.6	3.45	6.03
Others	59	3670	7.9	5.46	11.39

Table 3.4.3: Prevalence of overweight (BAZ $>+1SD$ to $\leq+2SD$) among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	5401	336525	16.2	15.67	16.83
State					
Johor	318	41096	15.8	13.67	18.19
Kedah	376	25030	17.3	15.07	19.68
Kelantan	337	17365	15.6	14.25	17.14
Melaka	324	10458	16.2	14.70	17.88
Negeri Sembilan	342	13483	15.5	13.69	17.40
Pahang	363	16794	16.5	14.99	18.16
Pulau Pinang	295	15136	14.5	12.98	16.15
Perak	346	27288	16.5	14.93	18.09
Perlis	333	3214	16.6	15.47	17.84
Selangor	361	68574	17.5	15.78	19.44
Terengganu	338	14822	15.3	13.91	16.69
Sabah	295	29689	14.3	12.67	16.14
Sarawak	388	34640	17.8	16.18	19.62
WP Kuala Lumpur	323	15915	15.2	13.82	16.67
WP Labuan	344	1104	17.1	15.29	19.10
WP Putrajaya	318	1918	16.0	13.77	18.46
Sex					
Male	2430	165517	16.0	15.14	16.87
Female	2971	171008	16.5	15.78	17.23
Form					
Form 1	1205	76777	17.0	15.97	18.15
Form 2	1180	74856	17.3	16.02	18.63
Form 3	1030	68653	16.4	15.13	17.85
Form 4	1034	57334	14.7	13.41	16.04
Form 5	952	58906	15.5	14.27	16.79
Ethnicity					
Malay	3648	205775	15.8	15.07	16.50
Chinese	844	62439	16.6	15.45	17.87
Indian	281	22790	18.4	16.24	20.89
Bumiputera Sabah	263	17470	14.9	12.92	17.20
Bumiputera Sarawak	245	21546	20.5	18.32	22.85
Others	120	6505	14.1	11.70	16.82

Table 3.4.4: Prevalence of obesity (BAZ >+2SD) among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	4866	295534	14.3	13.66	14.89
State					
Johor	295	38760	14.9	13.44	16.50
Kedah	319	22079	15.2	13.73	16.84
Kelantan	276	14710	13.3	11.42	15.33
Melaka	313	10344	16.0	14.11	18.20
Negeri Sembilan	352	14172	16.2	14.50	18.15
Pahang	309	14788	14.5	12.79	16.49
Pulau Pinang	283	15152	14.5	11.52	18.12
Perak	300	24350	14.7	12.74	16.86
Perlis	350	3480	18.0	16.28	19.85
Selangor	257	49209	12.6	10.68	14.78
Terengganu	301	13277	13.7	12.47	14.94
Sabah	219	22419	10.8	9.22	12.64
Sarawak	372	33841	17.4	15.16	19.95
WP Kuala Lumpur	312	16110	15.4	13.35	17.64
WP Labuan	313	1025	15.9	13.25	18.93
WP Putrajaya	295	1819	15.2	12.71	17.96
Sex					
Male	2706	177420	17.1	16.30	18.00
Female	2160	118114	11.4	10.73	12.09
Form					
Form 1	1250	76673	17.0	15.89	18.20
Form 2	1063	66389	15.3	14.17	16.57
Form 3	876	56585	13.6	12.45	14.74
Form 4	911	49738	12.7	11.58	13.98
Form 5	766	46150	12.1	11.14	13.21
Ethnicity					
Malay	3538	200038	15.3	14.75	15.93
Chinese	512	37151	9.9	8.52	11.46
Indian	273	20407	16.5	14.63	18.60
Bumiputera Sabah	203	12393	10.6	8.63	12.94
Bumiputera Sarawak	227	19582	18.6	15.87	21.74
Others	113	5963	12.9	10.20	16.18

3.5 Drug Use

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3.5.1 Introduction

According to the World Drug Report 2022 (WDR 2022) by the United Nations Office on Drugs and Crime (UNODC), an estimated 284 million people had used drugs within the previous year, which accounts for a 26% increase over the previous decade.¹ Drug use accounts for 5% of all substance-related death and 9% of substance-use-related DALYs. Despite the report showing that young people continue to use more drugs than adults, it was found that drug use by adolescents decreased during the COVID-19 pandemic, which coincided with the lockdown periods.¹ Marijuana or cannabis remains the world's most widely used drug, with an annual prevalence of 4% of the adult population, or an estimated 209 million users in the past year.¹ Amphetamines remain the second most commonly used drug worldwide, with an estimated 34 million in 2020, representing 0.7% of the global population. NHMS 2019 showed that marijuana is the highest taken in Malaysia, followed by kratom.² Based on the statistics provided by the National Anti-Drug Agency in 2020 showed that ATS is the most commonly used drug among adolescents in Malaysia aged 13 to 18 years old, followed by marijuana and opiate.³ In this survey, we have added new questions, which include kratom and inhalant, to get baseline data on adolescent usage in Malaysia, as we don't have preliminary national data on these drugs.

3.5.2 Objectives

- i. To determine the prevalence and socio-demographic characteristics of ever and current drug use among adolescents.
- ii. To determine the prevalence and socio-demographic characteristics of ever and current marijuana use among adolescents in Malaysia
- iii. To determine the prevalence and socio-demographic characteristics of ever and current amphetamines or methamphetamines use among adolescents in Malaysia
- iv. To determine the prevalence and socio-demographic characteristics of ever and current inhalant use among adolescents in Malaysia
- v. To determine the prevalence and socio-demographic characteristics of ever and current kratom use among adolescents in Malaysia
- vi. To identify the age of initiation and the sources of obtaining drugs among adolescents in Malaysia

3.5.3 Variable Definitions

- **Drug use:**
 - i. **2017 definition:** taking heroin, morphine, glue, amphetamine, or methamphetamines (ecstasy, syabu, ice), marijuana (except prescribed medicine).
 - ii. **2022 definition:** taking opiates, amphetamine-type stimulants, marijuana, psychotropic pill, cocaine, inhalant and others (depressants, hallucinogens).
- **Ever drug use:** adolescents who had a history of drug use in their lifetime
- **Current drug use:** adolescents who used drugs in the past 30 days
- **Ever marijuana use:** adolescents who had a history of marijuana use in their lifetime
- **Current marijuana use:** adolescents who used marijuana in the past 30 days
- **Ever amphetamine or methamphetamine use:** adolescents with a history of amphetamine or methamphetamines use in their lifetime.
- **Ever inhalant use:** adolescents who had a history of inhalant use in their lifetime
- **Current inhalant use:** adolescents who used an inhalant in the past 30 days
- **Ever kratom use:** adolescents who had a history of kratom use in their lifetime
- **Current kratom use:** adolescents who used kratom in the past 30 days

3.5.4 Findings

Overall, 5.2% (95% CI: 4.69, 5.69) of adolescents reported that they had ever used drug during their lifetime and it was significantly higher among males [6.8% (95%CI: 6.10, 7.65)] as compared to females [3.5% (95%CI: 3.08, 4.03)] (**Table 3.5.1**). The prevalence of current drug users was 2.9% (95%CI: 2.56, 3.33), males [4.1% (95%CI: 3.51, 4.85)] were significantly higher than females [1.7% (95%CI: 1.45, 2.06)] (**Table 3.5.2**). Among current users, about 38.4% had bought drugs from someone else (**Table 3.5.7**). The prevalence of ever used marijuana in a lifetime was 1.1% (95% CI: 0.88, 1.38), and it was significantly higher among males [1.8% (95%CI: 1.45, 2.35)] as compared to females [0.4% (95%CI: 0.26, 0.53)] (**Table 3.5.3**). About 1.0% (95% CI: 0.77, 1.21) of adolescents were current marijuana users. Males (1.6%) (95%CI: 1.27, 2.05) significantly higher than females 0.3% (95%CI: 0.22, 0.47) (**Table 3.5.3**).

Overall, 1.0% (95% CI: 0.82, 1.26) of adolescents reported having ever used amphetamines or methamphetamines during their lifetime. Males was also significantly higher [1.6% (95% CI: 1.29, 2.05)] than females [0.4% (95% CI: 0.28, 0.59)] (**Table 3.5.4**). Overall, 0.9% (95% CI: 0.75, 1.17) of adolescents reported had current used amphetamines or methamphetamines in the past 30 days. Males was also significantly higher [1.4% (95% CI: 1.09, 1.81)] than females [0.5% (95% CI: 0.35, 0.66)] (**Table 3.5.4**). Overall, 2.8% (95% CI: 2.48, 3.18) of adolescents reported had ever used

inhalant during their lifetime. Males was also significantly higher [3.3% (95% CI: 2.82, 3.80)] than females [2.3% (95% CI: 2.00, 2.74)] (**Table 3.5.5**). Overall, 1.6% (95% CI: 1.41, 1.88) of adolescents reported had current used inhalant in the past 30 days. Males was also significantly higher [2.1% (95% CI: 1.75, 2.46)] than females [1.2% (95% CI: 0.98, 1.45)] (**Table 3.5.5**).

Overall, 2.3% (95% CI: 2.03, 2.71) of adolescents reported had ever used kratom during their lifetime. Males was also significantly higher [3.8% (95% CI: 3.24, 4.42)] than females [0.9% (95% CI: 0.74, 1.14)] (**Table 3.5.6**). Overall, 1.5% (95% CI: 1.22, 1.74) of adolescents reported had current used kratom in the past 30 days. Males was also significantly higher [2.4% (95% CI: 1.97, 2.88)] than females [0.6% (95% CI: 0.41, 0.74)] (**Table 3.5.6**). Among ever drug users, 72.2% (95% CI: 65.21, 78.33) of them had initiated before the age of 14 year old (**Table 3.5.8**).

3.5.5 Discussion

In Malaysia, the prevalence of Form 1 to Form 5 adolescents who had ever used drugs in their lifetime was 5.2%. Nevertheless, using the previous definition, there was a decrease in prevalence from 4.3% to 3.6% compared to AHS 2017.⁴ Similarly, current drug user prevalence decreased from 3.4%⁴ in 2017 to 2.4% now. The decreased trend can be related to the lockdowns during the COVID-19 pandemic, which restricted the student's movement.¹ Also, the prolonged absence of face-to-face schooling sessions in Malaysia could have disrupted the drug supply chain among adolescents in school. The prevalence of adolescents in Malaysia who had ever used marijuana (1.1%) was lower than the AHS 2017, which was 2.8%.⁴ This prevalence was lower than Thailand's finding (6.9%).⁵ The prevalence of adolescents who had ever used amphetamines or methamphetamines was 1.0%. This prevalence was lower compared to the AHS 2017³, which was 2.4%. Thailand reported a higher prevalence of adolescents who had ever used amphetamines or methamphetamines at 3.9%.⁵

Unlike other drugs, this survey found that inhalant use was most common among female adolescents, which tended to decline as they grew older. The early use of inhalants in both sexes reflects inhalants as the "kids' drug", which are available legally. Ever use of kratom was 2.3% among adolescents in Malaysia. Opposite to popular belief that northwest states in Malaysia have the highest users of kratom⁶, this survey found that the prevalence of the ever use of kratom among adolescents was higher in southern states. Among the ever drug user, the majority [72.2% (95% CI: 65.21, 78.33)] had initiated at the age before the age of 14 years old.

3.5.6 Conclusion

There was a decrease in the trend of drug use (ever and current) over the five years (2017 - 2022). There was about a 2.5 times reduction of the ever marijuana use and current

marijuana use among Malaysian adolescents during this period. As for the ever amphetamine or methamphetamine use, there is also a decrease of about 2-fold.

3.5.7 Recommendations

The effectiveness of drug education at primary schools plays a vital role in reducing current drug use prevalence in 2022 compared to 2017. Drug prevention among adolescents should be improved and regularly reviewed to meet the ever-changing trend of drug use locally and globally. New strategies and approaches can be developed to address issues of inhalant and kratom use among adolescents by focusing more on the danger of inhalant and kratom use. An adolescent who has been exposed to and involved in drug abuse must be given access to treatment and provided educational opportunities, vocational skills training and other socioeconomic support needed. School drug prevention programs developed for adolescents can be integrated with technology, such as web-based intervention, to make it more interesting in increasing awareness and help build self-resilience among adolescents through:

- Conducting early detection of an adolescent with problems or who are at risk of drug abuse
- Increasing the knowledge, understanding and awareness of the dangers of drug abuse
- Increasing life skills such as assertiveness, coping skills and stress management
- Reinforcing positive attitudes and healthy lifestyles among school children

3.5.8 References

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Table 3.5.1 : Prevalence of ever drug use among adolescents in Malaysia, 2022

Socio-demographic characteristics	Ever used drug* based on 2017				Ever used drug**			
	Unweighted count	Estimated population	Prevalence (%)	95 % CI	Unweighted count	Estimated population	Prevalence (%)	95 % CI
MALAYSIA	1132	74168	3.6	3.23 - 4.10	1614	105549	5.2	4.69 - 5.69
State								
Johor	73	8955	3.5	2.41 - 4.96	130	16445	6.3	4.72 - 8.47
Kedah	87	6283	4.3	2.70 - 6.89	106	7604	5.2	3.41 - 7.96
Kelantan	51	-	-	- -	74	4078	3.7	2.23 - 5.96
Melaka	63	2130	3.3	2.43 - 4.48	119	4143	6.4	4.77 - 8.55
Negeri Sembilan	76	3045	3.5	2.20 - 5.55	125	5198	6.0	4.53 - 7.88
Pahang	62	3095	3.1	2.35 - 4.07	114	5588	5.6	4.15 - 7.45
Pulau Pinang	78	4114	4.1	2.75 - 5.95	107	5567	5.5	3.86 - 7.70
Perak	86	6951	4.2	2.88 - 6.09	112	9202	5.6	4.15 - 7.41
Perlis	32	327	1.8	1.11 - 2.90	56	567	3.1	2.06 - 4.70
Selangor	63	12269	3.2	2.29 - 4.34	84	16175	4.2	3.36 - 5.15
Terengganu	92	4229	4.4	2.78 - 6.76	117	5423	5.6	3.59 - 8.56
Sabah	59	5964	3.2	2.01 - 5.08	88	8924	4.8	3.07 - 7.39
Sarawak	101	9080	4.7	3.14 - 6.91	114	10221	5.2	3.63 - 7.52
WP Kuala Lumpur	91	4256	4.1	2.91 - 5.85	121	5773	5.6	4.25 - 7.32
WP Labuan	64	210	3.2	2.28 - 4.56	79	253	3.9	2.96 - 5.11
WP Putrajaya	54	304	2.5	1.49 - 4.26	68	390	3.2	2.09 - 4.98
Sex								
Male	673	46038	4.5	3.95 - 5.23	1024	69360	6.8	6.10 - 7.65
Female	459	28130	2.7	2.35 - 3.21	590	36189	3.5	3.08 - 4.03
Form								
Form 1	317	22258	5.1	4.23 - 6.16	385	27261	6.2	5.31 - 7.31
Form 2	250	15005	3.5	2.83 - 4.38	307	18422	4.3	3.59 - 5.17
Form 3	203	14301	3.5	2.79 - 4.33	309	20407	5.0	4.14 - 5.91
Form 4	175	10879	2.8	2.26 - 3.51	281	17644	4.6	3.80 - 5.48
Form 5	187	11725	3.1	2.56 - 3.74	332	21815	5.7	4.89 - 6.75
Ethnicity								
Malay	662	40005	3.1	2.69 - 3.60	1075	66149	5.1	4.60 - 5.73
Chinese	214	15187	4.1	3.24 - 5.13	232	16321	4.4	3.48 - 5.50
Indian	120	9888	8.2	5.88 - 11.24	138	11313	9.3	6.80 - 12.55
Bumiputera Sabah	53	3535	3.2	1.88 - 5.51	72	5245	4.8	3.10 - 7.34
Bumiputera Sarawak	42	3624	3.4	2.28 - 5.18	50	4183	4.0	2.73 - 5.70
Others	41	1928	4.3	2.89 - 6.35	47	2337	5.2	3.60 - 7.43

*Drug includes heroin, morphine, glue, amphetamine, ecstasy, methamphetamine, ice and marijuana.
 **Drug includes opiate, amphetamine, marijuana, psychotropic pill, cocaine, inhalant, kratom and other.

Table 3.5.2 : Prevalence of current drug use among adolescents in Malaysia, 2022

Socio-demographic characteristics	Current used drug* based on 2017					Current used drug** based on 2022				
	Unweighted count	Estimated population	Prevalence (%)	95 % CI		Unweighted count	Estimated population	Prevalence (%)	95 % CI	
MALAYSIA	750	48919	2.4	2.08		904	59638	2.9	2.56	3.33
State										
Johor	46	5819	2.2	1.70		70	8984	3.5	2.47	4.85
Kedah	60	-	-	-		65	-	-	-	-
Kelantan	46	-	-	-		52	-	-	-	-
Melaka	37	1272	2.0	1.37		52	1807	2.8	2.00	3.89
Negeri Sembilan	53	-	-	-		71	3010	3.5	2.18	5.47
Pahang	40	2101	2.1	1.29		54	2694	2.7	1.67	4.30
Pulau Pinang	51	2752	2.7	1.53		58	3103	3.0	1.74	5.29
Perak	56	4358	2.6	1.51		62	4881	2.9	1.78	4.83
Perlis	24	254	1.4	0.82		34	356	2.0	1.18	3.24
Selangor	32	6126	1.6	1.06		42	8060	2.1	1.45	2.95
Terengganu	72	-	-	-		80	-	-	-	-
Sabah	50	5138	2.8	1.56		58	5975	3.2	1.86	5.47
Sarawak	67	5938	3.0	2.24		71	6299	3.2	2.39	4.36
WP Kuala Lumpur	43	2060	2.0	1.41		52	2518	2.4	1.86	3.18
WP Labuan	35	113	1.7	1.06		42	135	2.1	1.25	3.40
WP Putrajaya	38	220	1.8	1.14		41	237	2.0	1.34	2.90
Sex										
Male	491	33187	3.3	2.75		613	41923	4.1	3.51	4.85
Female	259	15733	1.5	1.27		291	17716	1.7	1.45	2.06
Form										
Form 1	260	17672	4.0	3.26		280	19395	4.4	3.64	5.39
Form 2	180	11202	2.6	2.06		199	12199	2.9	2.28	3.58
Form 3	114	7566	1.8	1.36		147	9566	2.3	1.77	3.04
Form 4	95	5549	1.4	1.08		129	7799	2.0	1.58	2.58
Form 5	101	6930	1.8	1.35		149	10680	2.8	2.17	3.64
Ethnicity										
Malay	444	26593	2.1	1.71		577	35942	2.8	2.36	3.30
Chinese	121	8395	2.3	1.68		126	8505	2.3	1.70	3.06
Indian	93	7123	5.8	4.08		100	7666	6.3	4.54	8.65
Bumiputera Sabah	36	-	-	-		42	3242	3.0	1.66	5.24
Bumiputera Sarawak	34	2802	2.7	1.75		36	2994	2.8	1.92	4.17
Others	22	1286	2.9	1.75		23	1289	2.9	1.75	4.66

*Drug includes heroin, morphine, glue, amphetamine, ecstasy, methamphetamine, ice and marijuana.

**Drug includes opiate, amphetamine, marijuana, psychotropic pill, cocaine, inhalant, kratom and others.

Table 3.5.3 : Prevalence of marijuana use among adolescents in Malaysia, 2022

Socio-demographic characteristics	Ever used marijuana in a lifetime					Current used marijuana in the past 30 days				
	Unweighted count	Estimated population	Prevalence (%)	95 % CI		Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper				Lower	Upper
MALAYSIA	337	22589	1.1	0.88	1.38	302	19681	1.0	0.77	1.21
State										
Johor	19	2397	0.9	0.58	1.47	14	1775	0.7	0.38	1.22
Kedah	36	-	-	-	-	35	-	-	-	-
Kelantan	24	-	-	-	-	24	-	-	-	-
Melaka	11	-	-	-	-	8	-	-	-	-
Negeri Sembilan	27	-	-	-	-	25	-	-	-	-
Pahang	21	1049	1.0	0.62	1.75	22	-	-	-	-
Pulau Pinang	21	-	-	-	-	22	-	-	-	-
Perak	21	-	-	-	-	21	-	-	-	-
Perlis	14	-	-	-	-	6	-	-	-	-
Selangor	11	-	-	-	-	6	-	-	-	-
Terengganu	42	-	-	-	-	47	-	-	-	-
Sabah	26	-	-	-	-	21	-	-	-	-
Sarawak	30	2588	1.3	0.83	2.12	24	2128	1.1	0.69	1.71
WP Kuala Lumpur	9	-	-	-	-	5	-	-	-	-
WP Labuan	15	-	-	-	-	14	-	-	-	-
WP Putrajaya	10	-	-	-	-	8	-	-	-	-
Sex										
Male	265	18736	1.8	1.45	2.35	243	16404	1.6	1.27	2.05
Female	72	3854	0.4	0.26	0.53	59	3277	0.3	0.22	0.47
Form										
Form 1	110	7090	1.6	1.15	2.28	121	7899	1.8	1.34	2.44
Form 2	84	5543	1.3	0.89	1.89	75	4951	1.2	0.78	1.73
Form 3	44	2941	0.7	0.47	1.09	40	2660	0.6	0.42	0.98
Form 4	45	3008	0.8	0.53	1.15	35	2089	0.5	0.34	0.85
Form 5	54	4008	1.1	0.71	1.56	31	2082	0.5	0.32	0.93
Ethnicity										
Malay	204	12863	1.0	0.75	1.33	187	11437	0.9	0.66	1.20
Chinese	35	2271	0.6	0.36	1.02	30	2226	0.6	0.35	1.02
Indian	51	3945	3.2	2.08	5.00	49	3411	2.8	1.74	4.47
Bumiputera Sabah	21	-	-	-	-	14	-	-	-	-
Bumiputera Sarawak	16	1337	1.3	0.73	2.20	12	-	-	-	-
Others	10	-	-	-	-	10	-	-	-	-

Table 3.5.4 : Prevalence of amphetamines/methamphetamines use among adolescents in Malaysia, 2022

Socio-demographic characteristics	Ever used amphetamines/methamphetamines in a lifetime				Current used amphetamines/methamphetamines in the past 30 days			
	Unweighted count	Estimated population	Prevalence (%)	95 % CI Lower Upper	Unweighted count	Estimated population	Prevalence (%)	95 % CI Lower Upper
MALAYSIA	322	20718	1.0	0.82 1.26	302	19160	0.9	0.75 1.17
State								
Johor	15	1867	0.7	0.43 1.20	11	1474	0.6	0.33 0.99
Kedah	33	-	-	- -	33	-	-	- -
Kelantan	25	-	-	- -	22	-	-	- -
Melaka	11	-	-	- -	10	-	-	- -
Negeri Sembilan	29	-	-	- -	27	-	-	- -
Pahang	12	-	-	- -	18	970	1.0	0.55 1.70
Pulau Pinang	24	-	-	- -	24	-	-	- -
Perak	28	-	-	- -	28	-	-	- -
Perlis	10	-	-	- -	9	-	-	- -
Selangor	10	1933	0.5	0.33 0.76	6	-	-	- -
Terengganu	45	-	-	- -	41	-	-	- -
Sabah	16	-	-	- -	22	-	-	- -
Sarawak	31	2686	1.4	0.89 2.13	26	2194	1.1	0.69 1.82
WP Kuala Lumpur	7	-	-	- -	4	-	-	- -
WP Labuan	17	-	-	- -	16	-	-	- -
WP Putrajaya	9	-	-	- -	5	-	-	- -
Sex								
Male	240	16528	1.6	1.29 2.05	215	14235	1.4	1.09 1.81
Female	82	4190	0.4	0.28 0.59	87	4925	0.5	0.35 0.66
Form								
Form 1	116	7240	1.7	1.24 2.21	116	7471	1.7	1.29 2.26
Form 2	95	6412	1.5	1.05 2.15	86	5287	1.2	0.84 1.81
Form 3	41	2680	0.7	0.39 1.08	41	2858	0.7	0.46 1.04
Form 4	34	1698	0.4	0.28 0.70	33	1590	0.4	0.25 0.68
Form 5	36	2687	0.7	0.48 1.04	26	1955	0.5	0.31 0.85
Ethnicity								
Malay	185	11005	0.9	0.64 1.15	180	10869	0.8	0.63 1.13
Chinese	41	3011	0.8	0.50 1.30	38	2475	0.7	0.40 1.10
Indian	53	3687	3.0	1.87 4.84	45	3101	2.5	1.56 4.12
Bumiputera Sabah	17	-	-	- -	17	-	-	- -
Bumiputera Sarawak	14	1165	1.1	0.64 1.89	12	-	-	- -
Others	12	-	-	- -	10	-	-	- -

Table 3.5.5 : Prevalence of inhalant use among adolescents in Malaysia, 2022

Socio-demographic characteristics	Ever used inhalant in a lifetime				Current used inhalant in the past 30 days					
	Unweighted count	Estimated population	Prevalence (%)	95 % CI		Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper				Lower	Upper
MALAYSIA	876	57329	2.8	2.48	3.18	505	33250	1.6	1.41	1.88
State										
Johor	56	7042	2.7	1.83	4.01	34	4276	1.6	1.16	2.33
Kedah	69	4884	3.4	2.07	5.41	39	2872	2.0	1.11	3.50
Kelantan	33	-	-	-	-	27	-	-	-	-
Melaka	51	1683	2.6	1.92	3.52	28	943	1.5	1.05	2.03
Negeri Sembilan	56	2239	2.6	1.73	3.82	34	-	-	-	-
Pahang	48	2444	2.4	1.81	3.27	20	1046	1.0	0.60	1.82
Pulau Pinang	65	3395	3.3	2.36	4.70	38	2063	2.0	1.15	3.55
Perak	66	5270	3.2	2.40	4.18	42	3225	1.9	1.13	3.31
Perlis	20	196	1.1	0.68	1.69	12	126	0.7	0.42	1.15
Selangor	51	9961	2.6	1.76	3.71	25	4673	1.2	0.79	1.83
Terengganu	72	3309	3.4	2.23	5.15	49	2283	2.3	1.36	4.02
Sabah	42	4180	2.2	1.37	3.64	31	3105	1.7	1.02	2.71
Sarawak	78	6911	3.5	2.26	5.51	43	3864	2.0	1.42	2.77
WP Kuala Lumpur	76	3530	3.4	2.26	5.13	32	1525	1.5	1.03	2.11
WP Labuan	48	158	2.4	1.66	3.56	21	-	-	-	-
WP Putrajaya	45	255	2.1	1.27	3.52	30	178	1.5	0.97	2.27
Sex										
Male	491	33278	3.3	2.82	3.80	311	21027	2.1	1.75	2.46
Female	385	24051	2.3	2.00	2.74	194	12223	1.2	0.98	1.45
Form										
Form 1	249	17851	4.1	3.34	4.98	174	11867	2.7	2.19	3.36
Form 2	197	11495	2.7	2.16	3.35	133	8360	2.0	1.51	2.53
Form 3	156	11282	2.7	2.14	3.49	74	4865	1.2	0.84	1.65
Form 4	141	8715	2.3	1.77	2.87	67	4242	1.1	0.80	1.51
Form 5	133	7987	2.1	1.68	2.64	57	3916	1.0	0.69	1.54
Ethnicity										
Malay	514	30784	2.4	2.04	2.80	293	17435	1.4	1.12	1.63
Chinese	177	12578	3.4	2.72	4.18	89	6201	1.7	1.26	2.20
Indian	91	7908	6.5	4.52	9.24	65	5230	4.3	2.82	6.47
Bumiputera Sabah	32	-	-	-	-	22	-	-	-	-
Bumiputera Sarawak	32	2635	2.5	1.73	3.58	22	1784	1.7	1.12	2.53
Others	30	1463	3.3	2.01	5.21	14	-	-	-	-

Table 3.5.6 : Prevalence of kratom use among adolescents in Malaysia, 2022

Socio-demographic characteristics	Ever used kratom in a lifetime						Current used kratom in the past 30 days					
	Unweighted count	Estimated population	Prevalence (%)	95 % CI			Unweighted count	Estimated population	Prevalence (%)	95 % CI		
				Lower	Upper					Lower	Upper	
MALAYSIA	718	47857	2.3	2.03	2.71		443	29849	1.5	1.22	1.74	
State												
Johor	71	9271	3.6	2.36	5.38		39	5109	2.0	1.21	3.20	
Kedah	47	-	-	-	-		29	-	-	-	-	
Kelantan	41	2297	2.1	1.19	3.55		34	-	-	-	-	
Melaka	68	2472	3.8	2.41	6.01		26	917	1.4	0.89	2.26	
Negeri Sembilan	72	3198	3.7	2.47	5.46		45	1976	2.3	1.29	3.97	
Pahang	67	3293	3.3	2.23	4.81		33	1592	1.6	0.97	2.59	
Pulau Pinang	44	2407	2.4	1.39	4.00		24	-	-	-	-	
Perak	44	3816	2.3	1.50	3.51		32	-	-	-	-	
Perlis	35	355	2.0	1.17	3.24		21	218	1.2	0.66	2.15	
Selangor	28	5431	1.4	1.04	1.88		17	3326	0.9	0.55	1.33	
Terengganu	58	-	-	-	-		47	-	-	-	-	
Sabah	47	-	-	-	-		28	2886	1.5	0.86	2.79	
Sarawak	31	2838	1.5	1.03	2.06		29	2585	1.3	0.91	1.94	
WP Kuala Lumpur	24	-	-	-	-		13	-	-	-	-	
WP Labuan	22	65	1.0	0.59	1.70		19	-	-	-	-	
WP Putrajaya	19	115	1.0	0.62	1.48		7	-	-	-	-	
Sex												
Male	554	38462	3.8	3.24	4.42		348	24197	2.4	1.97	2.88	
Female	164	9395	0.9	0.74	1.14		95	5651	0.6	0.41	0.74	
Form												
Form 1	151	10992	2.5	1.97	3.20		138	9555	2.2	1.69	2.83	
Form 2	133	8245	1.9	1.44	2.58		97	6024	1.4	1.03	1.94	
Form 3	124	7543	1.8	1.41	2.37		67	4481	1.1	0.77	1.54	
Form 4	139	9069	2.3	1.81	3.03		65	3911	1.0	0.73	1.40	
Form 5	171	12009	3.2	2.48	4.03		76	5878	1.5	1.09	2.19	
Ethnicity												
Malay	565	36726	2.9	2.46	3.31		304	20053	1.6	1.25	1.93	
Chinese	37	2442	0.7	0.40	1.08		41	2699	0.7	0.45	1.17	
Indian	55	3927	3.2	2.04	5.05		55	3701	3.0	1.93	4.74	
Bumiputera Sabah	35	2845	2.6	1.45	4.62		20	-	-	-	-	
Bumiputera Sarawak	14	1243	1.2	0.74	1.88		14	1188	1.1	0.73	1.73	
Others	12	-	-	-	-		9	-	-	-	-	

Table 3.5.7 : Source of getting drugs in the past 30 days among current drug users among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Percentage (%)
I bought them from someone	120	38.4
I give someone else money to buy it for me	63	23.1
I stole it or got it without permission	50	14.9
I got it from my friend	40	13.9
I got it from my family	7	-
I got it some other ways	24	7.5

Table 3.5.8 : Percentage of first use of drug before the age of 14 years among ever used drug, adolescents in Malaysia, 2022

Percentage	Unweighted count	Prevalence (%)	95 % CI	
			Lower	Upper
Yes	199	72.2	65.21	78.33
No	81	27.8	21.67	34.79

3.6 Oral and Hand Hygiene

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3.6.1 Introduction

Oral health is integral to general health as it promotes a positive quality of life and social self-confidence. Currently, oral diseases affect close to 3.5 billion people worldwide, and their prevalence is noted to be increasing globally. A resolution on oral health in 2021 by the WHO recommends a more preventive approach towards oral health, including oral health promotions at schools¹. Empowering good oral hygiene habits during adolescence is important in sustaining this behaviour into adulthood². Therefore, early and adequate plaque control is key in preventing oral health diseases such as dental caries and periodontal diseases, which may affect school performance and attendance, as well as permanent dental problems in adulthood. This can be achieved via regular tooth brushing with fluoridated toothpaste, dental flossing, tongue cleaning, and a minimum yearly dental check-up³. Appropriate hand hygiene practices using soap, especially before eating and after using the toilet, are protective against a multitude of infections. These practices will enable adolescents to thrive and contribute actively to learning and reduce the rate of absenteeism⁴. Assessing practices on good hand washing among adolescents will help detect at-risk groups among school attendees⁴.

3.6.2 Objectives

3.6.2.1 General objective

To determine the prevalence of oral and hand hygiene behaviour among adolescents in Malaysia.

3.6.2.2 Specific objectives for oral hygiene

To describe the prevalence of:

- Self-oral health perception
- Tooth brushing frequency in the past 30 days
- Tongue cleaning practice
- Fluoridated toothpaste usage
- Dental floss usage
- Timing of the last visit to a dentist or dental nurse
- Having missed class or online learning due to toothache in the past 12 months
- Avoidance of smile or laughing due to the appearance of their teeth

3.6.2.3 Specific objectives for hand washing

To describe the prevalence of:

- Hand washing with soap in the past 30 days
- Hand washing before eating in the past 30 days
- Hand washing after using the toilet in the past 30 days
- Hand washing method before eating at school in the past 30 days

3.6.3 Variable definitions

- Clean or brush teeth:** Regular tooth brushing using a toothbrush and toothpaste to keep the mouth, teeth and gums clean and healthy
- Last saw a dentist or dental nurse:** Seen a dentist or dental nurse for a check-up, scaling or other dental treatment

3.6.4 Findings

Oral Hygiene

Overall, 4.1% (95%CI: 3.72, 4.47) of adolescents perceived their oral as poor or very poor (**Table 3.6.1**). The prevalence of teeth brushing at least twice daily was 82.2% (95%CI: 81.35, 82.93) (**Table 3.6.2**). The prevalence of adolescents who never performed tongue cleaning on a daily basis was 7.2% (95%CI: 6.70, 7.78), and it was significantly higher among males [9.0% (95%CI: 8.27, 9.73)] and adolescents of Chinese ethnicity [15.5% (95%CI: 13.84, 17.24)] (**Table 3.6.3**). About 43.3% (95%CI: 41.33, 45.27) of adolescents reported not knowing whether their toothpaste contained fluoride, and this was significantly higher among adolescents of Chinese ethnicity [63.3% (95%CI: 59.40, 67.09)] (**Table 3.6.4**). Overall, only 21.4% (95%CI: 20.61, 22.27) of adolescents reported that they use dental floss for cleaning their teeth, which was significantly higher among females [23.7% (95%CI: 22.78, 24.67)] and Indian adolescents [34.0% (95%CI: 30.42, 37.69)] (**Table 3.6.5**).

Only 32.6% (95%CI: 30.73, 34.54) of adolescents reported to have their last dental visit in the past 12 months, which was noted to be the lowest among adolescents in the state of Sabah [26.4% (95%CI: 21.48, 31.97)] (**Table 3.6.6**). Overall, among those who had toothache in the past 12 months, 10.8% (95% CI: 10.01, 11.68) had missed class or did not participate in online learning (PdPR), with the highest prevalence noted to be among Form 1 students [12.3% (95%CI: 10.77, 14.01)] (**Table 3.6.7**). 30.5% (95%CI: 29.60, 31.47) of adolescents reported that they had avoided smiling or laughing due to the appearance of their teeth, which was significantly higher among females [37.4% (95%CI: 36.07, 38.74)] (**Table 3.6.8**).

Hand Hygiene

The prevalence of adolescents who used soap most of the time or always was 69.3% (95% CI: 68.24, 70.43) in the past 30 days. The prevalence of adolescents who used soap most of the time or always was significantly lower [63.6% (95%CI: 62.11, 65.09)] (Table 3.6.9). While the prevalence of adolescents who washed hands most of the time or always before eating was 84.5% (95% CI: 83.18, 85.67) (Table 3.6.10), female adolescents had a significantly higher prevalence of washing hands most of the time or always after using the toilet [88.8% (95%CI: 88.03, 89.56)] (Table 3.6.11), and using running water before eating at school was 51.0% (95% CI: 48.67, 53.37) (Table 3.6.12).

3.6.5 Discussion

Oral Hygiene

Overall, the prevalence of adolescents who reported their oral health as poor or very poor was 4.1%. Oral care programs conducted in Malaysian schools emphasise the need for teeth brushing at least twice a day³, but the current survey shows only 82.2% of the adolescents are adhering to this recommendation, which is lower than the prevalence recorded by AHS 2017⁶ (87.1%) and GSHS 2012⁷ (84.3%). It is also noted that only 7.2% of adolescents never cleaned their tongue everyday. There is also an increase of adolescents who did not know if their toothpaste was fluoridated (43.3%) as compared to AHS 2017⁶ (31.8%) and GSHS 2012⁷ (29.9%). On the other hand, there was an improvement in the use of dental floss from AHS 2017⁶ (19.3%) to 21.4% this year. These results may indicate that knowledge regarding components of good oral health hygiene practice is inadequate among adolescents. Only 32.6% of adolescents had a dental visit within the past 12 months, which was a decline from 40.6% in AHS 2017⁶. The prevalence of adolescents who missed school or online classes due to toothache and avoided smiling or laughing due to the appearance of their teeth (10.8% and 30.5%, respectively) increased this year compared to AHS 2017⁶ (8.8% and 17.3%, respectively) and GSHS 2012⁷ (6.4% and 13.3%, respectively).

Hand Hygiene

The proportion of adolescents who used soap most of the time or always when washing their hands during the past 30 days (69.3%) was higher compared to AHS 2017⁶ (62.8%). This study also found that the prevalence of adolescents who washed their hands most of the time or always before eating was 84.5% compared to 84.0% in AHS 2017⁶. The prevalence of adolescents who most of the time washed their hands after going to the toilet in this study was essentially unchanged (86.5%) compared to AHS 2017 (86.6%).

3.6.6 Conclusion

In general, oral hygiene behaviour among adolescents appears to worsen in this study compared to previous surveys, which may be related to the COVID-19 pandemic that reduces school dental programs and attendance for dental checkups, which in turn may cause inadequate knowledge regarding best oral health practices among adolescents. Ironically, hand hygiene practices appear to improve compared to previous surveys, which may also reflect the effect of the COVID-19 pandemic that promotes frequent handwashing practices in general.

3.6.7 Recommendations

Taking cognizance of these findings, there is a need for continued emphasis on promoting good personal oral and hand hygiene among adolescents through knowledge, attitude and behavioural improvements with the following recommendations:

Oral Hygiene

- Oral health education school programs need to be strengthened by delivering captivating methods that can also be easily assimilated into the adolescents' daily school and home routines, which will enhance their retention of oral health care knowledge.
- Effective oral health education should be regularly revised, updated and tailored specifically for young adults to improve and empower their decision-making in maintaining good oral health.
- Adolescents at high risk of developing oral diseases should be identified early and oral health intervention should be delivered and tailored to these targeted groups to enhance engagement and personalisation of oral care needs.

Hand hygiene

- Interventions to promote hand washing need to be specifically designed according to the adolescent's understanding and relevant social norms to trigger and reinforce good and ideal handwashing practices and habit formation according to their environment and social situations.
- Schools should have policies that inculcate good handwashing behaviour, which should include adequate infrastructures to support regular and ideal handwashing practices, and readily available information visual aids about the correct hand washing technique at key times and places in schools.
- All schools should elect a designated authorised student, such as the Young Doctor (Doktor Muda) member, who is actively in charge of and monitors regular hygiene practice during recess and lunch breaks

Table: Oral and Hand Hygiene Trend among adolescents in Malaysia

	NHMS 2012	NHMS 2017	NHMS 2022
Brushed teeth twice a day	84.3	87.1	82.2
Did not know if toothpaste is fluoridated	29.9	31.8	43.3
Usage of dental floss	-	19.3	21.4
Last dental visit in the past 12 months	51.0	40.6	32.6
Missed classes or online learning due to toothache	6.4	8.8	10.8
Avoided smiling due to teeth appearance	13.3	17.3	30.5
Always used soap during handwashing	56.5	62.8	69.3
Always washed hands before eating	70.2	84.0	84.5
Always washed hands after using the toilet	74.5	86.6	86.5

3.6.8 References

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Table 3.6.1: Prevalence of poor or very poor perception of oral health among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	1231	84554	4.1	3.72	4.47
State					
Johor	80	10177	3.9	2.94	5.20
Kedah	67	4722	3.3	2.18	4.82
Kelantan	61	3370	3.0	2.31	3.96
Melaka	73	2409	3.7	2.67	5.16
Negeri Sembilan	71	2688	3.1	2.50	3.80
Pahang	66	3249	3.2	2.42	4.20
Pulau Pinang	90	4569	4.4	3.03	6.25
Perak	79	6459	3.9	2.82	5.35
Perlis	46	447	2.3	1.76	3.09
Selangor	103	19612	5.0	4.02	6.24
Terengganu	58	2503	2.6	2.08	3.17
Sabah	103	10131	4.9	3.76	6.45
Sarawak	94	8126	4.2	2.81	6.14
WP Kuala Lumpur	108	5426	5.2	3.74	7.14
WP Labuan	52	175	2.7	2.05	3.51
WP Putrajaya	80	492	4.1	2.89	5.75
Sex					
Male	610	45010	4.3	3.80	4.97
Female	621	39544	3.8	3.40	4.27
Form					
Form 1	292	20144	4.5	3.79	5.29
Form 2	276	18031	4.2	3.55	4.89
Form 3	248	17535	4.2	3.56	4.95
Form 4	226	15631	4.0	3.21	4.96
Form 5	189	13214	3.5	2.90	4.13
Ethnicity					
Malay	696	42838	3.3	2.96	3.63
Chinese	363	28189	7.5	6.72	8.37
Indian	39	3570	2.9	1.96	4.28
Bumiputera Sabah	73	5718	4.9	3.55	6.73
Bumiputera Sarawak	35	2778	2.6	1.59	4.32
Others	25	1462	3.2	1.82	5.49

Table 3.6.2: Prevalence of teeth brushing 2 times a day in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	27788	1701670	82.2	81.35	82.93
State					
Johor	1641	212884	81.9	79.03	84.39
Kedah	1832	120510	82.9	80.13	85.34
Kelantan	1811	92096	82.8	80.01	85.33
Melaka	1647	53427	82.6	79.60	85.24
Negeri Sembilan	1820	71653	82.3	79.44	84.85
Pahang	1849	86269	84.7	81.03	87.69
Pulau Pinang	1630	83661	79.9	77.36	82.23
Perak	1729	133402	80.4	76.25	83.95
Perlis	1676	16081	84.0	81.29	86.39
Selangor	1666	316086	80.9	78.63	83.03
Terengganu	1879	82002	84.3	80.74	87.30
Sabah	1733	171977	83.8	81.98	85.47
Sarawak	1846	163745	84.0	81.61	86.04
WP Kuala Lumpur	1670	82489	78.9	75.52	81.89
WP Labuan	1745	5569	85.7	83.33	87.82
WP Putrajaya	1614	9819	81.6	80.51	82.72
Sex					
Male	11849	790000	76.3	75.04	77.56
Female	15939	911670	88.0	87.14	88.77
Form					
Form 1	5694	351819	78.3	76.83	79.66
Form 2	5640	350680	81.2	79.87	82.42
Form 3	5357	342737	82.1	80.57	83.59
Form 4	5727	327775	83.8	82.32	85.19
Form 5	5370	328660	86.2	84.52	87.66
Ethnicity					
Malay	19373	1081997	82.9	81.90	83.94
Chinese	3894	286965	76.4	74.60	78.14
Indian	1293	101655	82.6	80.52	84.59
Bumiputera Sabah	1468	99998	85.7	84.25	87.06
Bumiputera Sarawak	1088	92199	87.2	84.83	89.22
Others	672	38856	84.7	80.87	87.86

Table 3.6.3: Prevalence of never did tongue cleaning among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	2233	149639	7.2	6.70	7.78
State					
Johor	159	19908	7.7	6.17	9.46
Kedah	166	11878	8.2	6.79	9.80
Kelantan	137	8023	7.2	5.65	9.17
Melaka	108	3544	5.5	4.54	6.59
Negeri Sembilan	150	6258	7.2	5.72	8.99
Pahang	144	7184	7.1	5.09	9.69
Pulau Pinang	191	9935	9.5	7.60	11.79
Perak	179	14602	8.8	6.70	11.45
Perlis	112	1169	6.1	4.94	7.54
Selangor	171	33235	8.5	7.01	10.28
Terengganu	152	6977	7.2	5.59	9.15
Sabah	73	7261	3.5	2.25	5.53
Sarawak	105	9320	4.8	3.43	6.62
WP Kuala Lumpur	185	9384	9.0	6.74	11.84
WP Labuan	93	301	4.6	3.45	6.20
WP Putrajaya	108	659	5.5	4.83	6.20
Sex					
Male	1335	92871	9.0	8.27	9.73
Female	898	56767	5.5	4.87	6.15
Form					
Form 1	535	36252	8.1	7.21	9.01
Form 2	453	31090	7.2	6.18	8.36
Form 3	435	30532	7.3	6.43	8.32
Form 4	440	27282	7.0	6.14	7.91
Form 5	370	24483	6.4	5.57	7.39
Ethnicity					
Malay	1302	78212	6.0	5.56	6.46
Chinese	742	58082	15.5	13.84	17.24
Indian	67	4792	3.9	2.98	5.07
Bumiputera Sabah	53	3391	2.9	2.08	4.04
Bumiputera Sarawak	34	3149	3.0	2.13	4.15
Others	35	2014	4.4	2.67	7.13

Table 3.6.4: Prevalence of did not know if their toothpaste is fluoridated among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	14064	896400	43.3	41.33	45.27
State					
Johor	1003	128568	49.5	41.69	57.26
Kedah	814	55385	38.1	32.72	43.77
Kelantan	726	38763	34.8	30.22	39.78
Melaka	847	27824	43.0	36.49	49.80
Negeri Sembilan	816	31888	36.6	30.02	43.77
Pahang	847	39878	39.3	33.74	45.08
Pulau Pinang	1085	55109	52.8	45.29	60.09
Perak	1036	80681	48.6	42.11	55.09
Perlis	788	7657	40.1	34.77	45.61
Selangor	796	152727	39.1	32.99	45.57
Terengganu	903	39154	40.3	35.93	44.73
Sabah	982	97095	47.3	42.01	52.72
Sarawak	963	85289	43.7	38.54	49.10
WP Kuala Lumpur	1024	50066	47.9	42.84	52.98
WP Labuan	868	2810	43.3	40.08	46.55
WP Putrajaya	566	3506	29.1	24.35	34.42
Sex					
Male	6556	450937	43.6	41.42	45.78
Female	7508	445463	43.0	40.81	45.21
Form					
Form 1	3024	192667	42.9	40.12	45.72
Form 2	3045	196991	45.6	42.81	48.45
Form 3	2829	186748	44.8	41.94	47.62
Form 4	2813	167894	42.9	40.30	45.63
Form 5	2353	152100	39.9	36.76	43.08
Ethnicity					
Malay	8755	499289	38.3	36.51	40.10
Chinese	3138	237721	63.3	59.40	67.09
Indian	573	43234	35.2	31.56	38.95
Bumiputera Sabah	775	54263	46.5	42.85	50.24
Bumiputera Sarawak	485	40540	38.3	32.42	44.62
Others	338	21353	46.5	40.05	53.15

Table 3.6.5: Prevalence of use of dental floss among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	7277	443801	21.4	20.61	22.27
State					
Johor	386	50295	19.3	16.94	21.99
Kedah	473	31058	21.4	18.22	24.88
Kelantan	481	24605	22.1	18.90	25.74
Melaka	361	11598	17.9	16.00	20.04
Negeri Sembilan	499	19669	22.6	19.74	25.68
Pahang	484	22486	22.1	19.91	24.53
Pulau Pinang	444	23075	22.1	19.37	24.99
Perak	422	31998	19.3	16.38	22.54
Perlis	467	4444	23.2	21.07	25.49
Selangor	440	84104	21.5	19.25	23.99
Terengganu	436	18929	19.5	16.79	22.41
Sabah	483	47897	23.4	20.19	26.87
Sarawak	528	46961	24.1	21.78	26.55
WP Kuala Lumpur	462	22533	21.5	19.06	24.22
WP Labuan	489	1568	24.1	22.31	26.05
WP Putrajaya	422	2583	21.5	18.91	24.27
Sex					
Male	2933	198032	19.1	18.08	20.24
Female	4344	245769	23.7	22.78	24.67
Form					
Form 1	1764	111589	24.8	23.31	26.44
Form 2	1552	97596	22.6	21.04	24.21
Form 3	1264	78900	18.9	17.47	20.43
Form 4	1380	78215	20.0	18.45	21.64
Form 5	1317	77502	20.3	18.74	22.00
Ethnicity					
Malay	4697	253180	19.4	18.57	20.27
Chinese	1171	84986	22.6	20.65	24.75
Indian	513	41809	34.0	30.42	37.69
Bumiputera Sabah	434	28888	24.8	21.53	28.31
Bumiputera Sarawak	289	24562	23.2	20.43	26.32
Others	173	10377	22.6	18.50	27.35

Table 3.6.6: Prevalence of last dental visit in the past 12 months among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	11686	675213	32.6	30.73	34.54
State					
Johor	539	70111	27.0	21.04	33.86
Kedah	725	47937	33.0	29.24	37.01
Kelantan	786	40197	36.1	32.42	40.03
Melaka	715	23081	35.7	30.81	40.83
Negeri Sembilan	635	25178	28.9	25.16	32.96
Pahang	725	33962	33.4	28.34	38.96
Pulau Pinang	849	43439	41.5	34.69	48.75
Perak	732	57585	34.7	27.38	42.76
Perlis	892	8526	44.5	38.28	50.94
Selangor	650	126933	32.5	26.51	39.11
Terengganu	949	41809	43.0	34.38	51.99
Sabah	559	54119	26.4	21.48	31.97
Sarawak	644	59208	30.4	25.13	36.15
WP Kuala Lumpur	727	35758	34.2	29.24	39.47
WP Labuan	685	2129	32.8	25.49	40.98
WP Putrajaya	874	5242	43.5	28.51	59.81
Sex					
Male	5165	324422	31.4	29.43	33.35
Female	6521	350791	33.9	31.56	36.23
Form					
Form 1	2422	146710	32.7	30.42	35.01
Form 2	2203	129143	29.9	27.42	32.48
Form 3	2181	127375	30.5	28.10	33.07
Form 4	2486	134918	34.5	31.73	37.36
Form 5	2394	137068	35.9	33.10	38.90
Ethnicity					
Malay	8255	425146	32.6	30.65	34.60
Chinese	1880	139325	37.1	33.10	41.30
Indian	513	40891	33.2	28.87	37.86
Bumiputera Sabah	502	30528	26.2	20.26	33.15
Bumiputera Sarawak	336	28762	27.2	21.42	33.90
Others	200	10561	23.1	17.95	29.22

Table 3.6.7: Prevalence of having missed classes or online learning among adolescents with toothache in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	1995	126088	10.8	10.01	11.68
State					
Johor	82	10915	7.7	5.67	10.38
Kedah	177	11787	12.9	10.14	16.26
Kelantan	212	11200	15.6	12.72	19.08
Melaka	83	2714	7.7	6.18	9.53
Negeri Sembilan	136	5717	11.2	8.97	13.88
Pahang	144	7008	12.2	9.56	15.45
Pulau Pinang	106	5753	10.0	7.02	14.18
Perak	109	8105	8.9	6.57	11.89
Perlis	83	858	7.8	6.15	9.88
Selangor	96	18252	8.6	6.55	11.10
Terengganu	175	7938	14.0	10.85	17.82
Sabah	174	17347	15.4	11.97	19.47
Sarawak	141	12362	11.7	8.91	15.17
WP Kuala Lumpur	110	5369	9.2	7.15	11.70
WP Labuan	94	308	9.0	6.37	12.58
WP Putrajaya	73	455	7.1	5.25	9.42
Sex					
Male	980	67821	11.3	10.24	12.38
Female	1015	58268	10.3	9.42	11.34
Form					
Form 1	527	33453	12.3	10.77	14.01
Form 2	404	26239	10.7	9.36	12.10
Form 3	294	20176	8.9	7.77	10.22
Form 4	363	21228	10.0	8.67	11.61
Form 5	407	24992	11.9	10.49	13.52
Ethnicity					
Malay	1406	82006	11.1	10.27	12.06
Chinese	155	10597	5.4	4.13	6.93
Indian	172	12678	14.2	12.07	16.69
Bumiputera Sabah	115	9701	15.4	11.75	20.02
Bumiputera Sarawak	77	6470	11.8	8.85	15.51
Others	70	4636	19.1	14.19	25.13

Table 3.6.8: Prevalence of avoidance of smiling due to teeth appearance among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	10378	631514	30.5	29.60	31.47
State					
Johor	588	76406	29.4	26.47	32.53
Kedah	639	41856	28.8	25.67	32.21
Kelantan	659	32713	29.4	27.02	31.94
Melaka	587	18886	29.2	26.53	32.10
Negeri Sembilan	679	26527	30.5	28.03	33.14
Pahang	676	31412	31.0	27.83	34.30
Pulau Pinang	575	29243	28.0	25.55	30.58
Perak	661	49823	30.0	26.61	33.69
Perlis	620	5883	30.8	27.12	34.74
Selangor	688	129070	33.1	30.27	35.98
Terengganu	684	29389	30.2	28.68	31.77
Sabah	624	61476	30.1	26.43	33.96
Sarawak	681	58927	30.3	27.75	32.88
WP Kuala Lumpur	692	33671	32.2	29.54	35.00
WP Labuan	664	2149	33.1	28.35	38.18
WP Putrajaya	661	4083	33.9	30.35	37.59
Sex					
Male	3586	244259	23.6	22.62	24.70
Female	6792	387254	37.4	36.07	38.74
Form					
Form 1	2183	132120	29.5	28.01	30.95
Form 2	2156	134888	31.3	29.73	32.81
Form 3	2044	124692	29.9	28.34	31.51
Form 4	2062	119032	30.5	28.38	32.65
Form 5	1933	120781	31.7	30.09	33.36
Ethnicity					
Malay	7502	426834	32.8	31.69	33.84
Chinese	1401	100165	26.7	24.93	28.58
Indian	329	25681	20.9	17.83	24.39
Bumiputera Sabah	560	36350	31.2	27.17	35.50
Bumiputera Sarawak	382	31232	29.6	25.75	33.70
Others	204	11252	24.6	21.12	28.46

Table 3.6.9: Prevalence of using soap most of the time or always during handwashing in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	23645	1434989	69.3	68.24	70.43
State					
Johor	1380	178491	68.6	64.54	72.46
Kedah	1566	103223	71.1	66.42	75.29
Kelantan	1382	69836	62.8	58.16	67.25
Melaka	1462	47608	73.6	69.79	77.14
Negeri Sembilan	1595	62740	72.0	67.53	76.07
Pahang	1532	70985	69.9	66.93	72.64
Pulau Pinang	1457	74823	71.6	68.93	74.06
Perak	1515	116731	70.4	65.90	74.48
Perlis	1466	14028	73.3	67.60	78.37
Selangor	1460	275774	70.6	68.30	72.90
Terengganu	1413	61559	63.3	59.42	67.10
Sabah	1389	137503	67.2	62.72	71.44
Sarawak	1490	131212	67.4	63.18	71.27
WP Kuala Lumpur	1562	76684	73.4	69.47	76.94
WP Labuan	1485	4730	72.8	69.04	76.27
WP Putrajaya	1491	9062	75.3	72.82	77.56
Sex					
Male	10019	657304	63.6	62.11	65.09
Female	13626	777686	75.1	73.99	76.10
Form					
Form 1	4746	291909	65.1	63.28	66.79
Form 2	4636	284455	65.9	64.13	67.57
Form 3	4533	287255	68.9	67.10	70.64
Form 4	4963	284196	72.7	70.76	74.54
Form 5	4767	287174	75.4	73.60	77.09
Ethnicity					
Malay	16378	907597	69.7	68.38	70.89
Chinese	3370	242428	64.6	62.57	66.58
Indian	1279	101528	82.5	79.76	85.01
Bumiputera Sabah	1246	82557	70.8	66.69	74.66
Bumiputera Sarawak	841	70687	66.9	62.35	71.21
Others	531	30193	65.8	59.54	71.56

Table 3.6.10: Prevalence of handwashing most of the time or always before eating in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	28687	1748036	84.5	83.18	85.67
State					
Johor	1620	211937	81.5	75.14	86.52
Kedah	1946	129063	88.8	85.31	91.49
Kelantan	1881	97124	87.3	84.73	89.52
Melaka	1735	56444	87.2	83.39	90.32
Negeri Sembilan	1925	75859	87.1	81.87	90.92
Pahang	1903	89047	87.8	82.60	91.60
Pulau Pinang	1609	83196	79.6	72.69	85.08
Perak	1805	140665	84.7	79.52	88.75
Perlis	1819	17510	91.5	89.25	93.29
Selangor	1726	329111	84.4	81.30	87.07
Terengganu	1909	83731	86.0	81.86	89.38
Sabah	1738	173183	84.7	80.20	88.31
Sarawak	1780	158657	81.4	78.01	84.40
WP Kuala Lumpur	1742	85940	82.2	76.05	86.97
WP Labuan	1732	5517	84.9	82.51	87.05
WP Putrajaya	1817	11051	91.7	90.05	93.16
Sex					
Male	12981	856389	82.9	81.44	84.21
Female	15706	891646	86.1	84.58	87.42
Form					
Form 1	5947	365843	81.5	79.70	83.18
Form 2	5787	354568	82.1	80.34	83.79
Form 3	5558	354064	84.9	83.33	86.43
Form 4	5919	339907	86.9	85.12	88.55
Form 5	5476	333654	87.6	85.62	89.26
Ethnicity					
Malay	20730	1161247	89.1	88.24	89.90
Chinese	3433	252414	67.3	64.55	69.94
Indian	1368	108986	88.6	86.06	90.67
Bumiputera Sabah	1474	101004	86.7	83.48	89.31
Bumiputera Sarawak	1017	85759	81.2	77.97	84.04
Others	665	38627	84.2	79.28	88.11

Table 3.6.11: Prevalence of handwashing most of the time or always after using the toilet in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	28956	1790019	86.5	85.67	87.33
State					
Johor	1758	226500	87.1	83.70	89.93
Kedah	1826	121466	83.6	80.06	86.58
Kelantan	1748	90054	81.0	77.91	83.72
Melaka	1747	56975	88.1	84.97	90.63
Negeri Sembilan	1916	75392	86.6	82.83	89.69
Pahang	1845	86050	84.9	82.03	87.35
Pulau Pinang	1841	94207	90.2	87.19	92.55
Perak	1869	145629	87.8	85.46	89.78
Perlis	1723	16522	86.4	84.73	87.89
Selangor	1788	342750	87.9	85.50	89.87
Terengganu	1808	78915	81.1	76.25	85.13
Sabah	1782	176835	86.6	83.42	89.24
Sarawak	1917	170922	87.7	85.16	89.81
WP Kuala Lumpur	1857	91555	87.5	84.54	90.00
WP Labuan	1789	5685	87.5	85.39	89.35
WP Putrajaya	1742	10562	87.7	85.19	89.89
Sex					
Male	12987	870260	84.2	83.09	85.31
Female	15969	919759	88.8	88.03	89.56
Form					
Form 1	5852	365806	81.5	79.84	83.10
Form 2	5839	364423	84.4	82.88	85.89
Form 3	5597	361534	86.8	85.44	87.99
Form 4	6042	351575	89.9	88.70	91.06
Form 5	5626	346681	91.0	89.92	91.98
Ethnicity					
Malay	19626	1098454	84.3	83.37	85.21
Chinese	4677	346960	92.5	91.34	93.51
Indian	1401	112418	91.4	89.28	93.17
Bumiputera Sabah	1504	102351	88.0	84.78	90.60
Bumiputera Sarawak	1083	91705	86.8	85.02	88.32
Others	665	38131	83.1	79.29	86.34

Table 3.6.12: Prevalence of handwashing using running water before eating at school the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	17869	1054540	51.0	48.67	53.37
State					
Johor	979	128269	49.5	42.45	56.52
Kedah	1244	81507	56.1	47.89	63.96
Kelantan	1239	61349	55.2	47.91	62.30
Melaka	1159	37640	58.4	50.37	65.93
Negeri Sembilan	1205	47212	54.3	45.17	63.15
Pahang	1268	58488	57.8	48.07	66.88
Pulau Pinang	926	47234	45.3	40.29	50.47
Perak	1242	96057	58.0	47.78	67.49
Perlis	1193	11522	60.4	54.40	66.01
Selangor	1064	205888	52.8	44.64	60.76
Terengganu	1199	52438	53.9	45.45	62.10
Sabah	776	77151	37.8	33.14	42.69
Sarawak	950	83368	42.8	37.45	48.25
WP Kuala Lumpur	1112	55307	53.0	45.85	60.01
WP Labuan	984	3131	48.2	42.17	54.37
WP Putrajaya	1329	7977	66.3	56.12	75.14
Sex					
Male	7683	492367	47.7	45.00	50.42
Female	10186	562173	54.3	51.96	56.69
Form					
Form 1	3109	183324	40.9	38.17	43.70
Form 2	3484	206884	48.0	45.01	50.94
Form 3	3533	216334	52.0	48.97	55.02
Form 4	3842	215846	55.3	51.80	58.66
Form 5	3901	232152	61.0	57.75	64.10
Ethnicity					
Malay	13842	765762	58.8	56.62	61.00
Chinese	1902	142494	38.0	32.72	43.63
Indian	449	33479	27.3	22.39	32.89
Bumiputera Sabah	823	51507	44.3	39.83	48.82
Bumiputera Sarawak	534	43884	41.5	36.07	47.18
Others	319	17415	38.0	31.66	44.74

3.7. Mental Health Problems

3.7.1 Mental Health Problems

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3.7.1.1 Introduction

According to the World Health Organization (WHO), one in every seven children and adolescents suffers from mental health problems, accounting for 13.0% of the global disease burden in this age group.¹ In Malaysia, the National Health and Morbidity Survey (NHMS) 2015 found that the prevalence of mental health problems was 34.7% among those aged 16 to 19, and 11.4% among those aged 10 to 15.² However, findings from the NHMS 2019 revealed that the prevalence of mental health problems had decreased to 9.5% among those aged 10 to 15 years old.³ In particular, WHO reported that suicide is the fourth leading cause of death among 15-19 year-olds.¹ In 2017, 7.9% of secondary school adolescents reported suicidal ideation, according to the NHMS.⁴

3.7.1.2 Objectives

- To identify the prevalence of loneliness in the past 12 months.
- To identify the prevalence of inability to sleep due to worry in the past 12 months.
- To identify the prevalence of suicidal ideation in the past 12 months.
- To identify the prevalence of suicidal plan in the past 12 months.
- To identify the prevalence of suicidal attempt in the past 12 months.
- To identify the prevalence of not having close friends.

3.7.1.3 Variable definitions

- Lonely “most of the time or always”:** Responded either “most of the time” or “always” for felt lonely during the past 12 months prior to the survey.
- Unable to sleep “most of the time or always” due to worry:** Responded either “most of the time” or “always” for being worried about something that he/she could not sleep at night during the past 12 months prior to the survey.
- Suicidal ideation:** ever seriously considered attempting suicide in the past 12 months prior to the survey.
- Suicidal plan:** made a plan of attempted suicide in the past 12 months prior to the survey.
- Suicidal attempt:** attempted suicide at least once in the past 12 months prior to the survey.
- No close friend:** Do not have any close friend

3.7.1.4 Findings

Overall, 16.2% (95% CI: 15.50, 16.99) of adolescents in Malaysia reported feeling lonely “most of the time or always”. By state, “felt lonely” was highest in WP Labuan; 20.3% (95% CI: 17.89, 22.94). The prevalence was significantly higher in female adolescents at 20.8% (95% CI: 19.80,21.90) compared to males at 11.6% (95% CI: 10.84,12.50). The prevalence increased with age and was highest among Bumiputera Sabah (**Table 3.7.1**). A total of 12.9% (95%CI: 12.26, 13.54) of adolescents reported being unable to sleep “most of the time or always” due to worry. The prevalence was highest in WP Labuan; 17.9% (95%CI: 13.60, 23.19). The prevalence was significantly higher among females as compared to males; 17.0% (95% CI: 16.10,17.90) vs. 8.8% (95% CI: 8.14, 9.50). The prevalence increased with age and was highest among Bumiputera Sabah (**Table 3.7 2**).

In the past 12 months prior to the survey, suicidal ideation, suicidal plan, and suicidal attempt, were reported 13.1% (95% CI: 12.43,13.70), 10.0% (95% CI: 9.46, 10.57), and 9.5% (95%CI: 9.03, 10.09), respectively. By state, suicidal ideation was highest in WP Kuala Lumpur at 18.0% (95% CI: 16.11,20.06) (**Table 3.7.3**), while WP Labuan was noted as highest for suicidal plan at 14.0% (95% CI: 10.80,17.93)(**Table 3.7.4**) and suicidal attempt at 13.0% (95% CI: 9.92,16.95) (**Table 3.7.5**). The prevalence of suicidal ideation, suicidal plan, and suicidal attempt were significantly higher in females compared to male adolescents. There was no difference detected by age. Suicidal ideation, suicidal plan, and suicidal attempt were most prevalent in the Bumiputera Sabah population. The survey also observed that 4.2% (95% CI: 3.90, 4.47) of the adolescents had no close friends, with Melaka noted as having the highest prevalence, 5.0% (95% CI: 3.89, 6.29). Indian adolescents reported the highest prevalence of having no close friends at 5.1% (95% CI: 3.91,6.64). There was no difference detected by sex or age (**Table 3.7.6**).

3.7.1.5 Discussion

The trend of suicidal ideation among adolescents in Malaysia increased from 7.9% in Malaysia GSHS 2012⁵ to 10.0% in 2017⁴ and 13.1% in this current survey. Compared to our neighbouring countries, this figure was higher than the prevalence in Indonesia GSHS 2015⁶ and Brunei GSHS 2014⁷, 5.4% and 9.2%, respectively. Compared to developed countries, suicidal ideation in Malaysia was much lower than the prevalence among Japanese adolescents in 2016 with 25.7%⁸ and findings in the United States (US) from their Youth Risk Behaviour Surveillance Study (YRBSS) 2019 with 18.8%.⁹

The prevalence of suicidal plan in this survey was also higher compared to the prevalence in Malaysia GSHS 2012 (6.4%)⁵ and GSHS 2017 (7.3%).⁴ This prevalence was observed lower compared to Thailand GSHS 2021 (17.6%)¹⁰ and US YRBSS with 15.7% suicidal plan.⁹

The prevalence of suicidal attempts in this survey was higher compared to the prevalence in Malaysia GSHS 2012 (6.8%)⁵ and GSHS 2017 (6.9%)⁴. This prevalence was also higher compared to Brunei GSHS 2014 (5.7%)⁷ and Indonesia GSHS 2015 (3.9%)⁶, but lower than the prevalence in Thailand GSHS 2021 (15.5%).¹⁰ Compared to Japan with only 5.4% of suicidal attempts among adolescents 13 to 18 years, our prevalence was alarmingly high.⁸ Our prevalence was also higher than in the US YRBSS in 2019, with 8.9% reported suicidal attempts.⁹ In addition to these, more adolescents reported having no close friends compared to previous Malaysia GSHS 2012 and GSHS 2017 (3.1% and 3.6% vs 4.2%).^{4,5} This figure also higher compared to 3.0% in both Brunei GSHS 2014⁷ and Indonesia GSHS 2015⁶, but lower than Thailand GSHS 2021 (6.4%).¹⁰

3.7.1.6 Conclusion

Overall, 16.2% of adolescents reported feeling lonely, with 12.9% unable to sleep at night due to worry. Suicidal ideation, plan and attempt were observed among 13.1%, 10.0%, and 9.5% of adolescents, respectively. About 4.2% revealed having no close friends.

3.7.1.7 Recommendations

1. Enhanced the screening of at-risk adolescents by School Health Teams and referral for further management.
2. Intensify efforts to prevent suicide among student especially among high risk group (attempt suicide).
3. Strengthen adolescents coping skills and resilience through interactive health promotion activities.
4. To introduce culturally competent programmes in school that upskill teachers and educate parents about risk of suicide among adolescents.
5. To improve the National school curriculum that teaches life skills such as effective coping strategies and develops mental resilience.
6. To review workplace policies with the aim of strengthening family ties such as the introduction of flexible working hours or the provision of options to work from home to increase quality time among parents and children.
7. To review school curriculum and teaching hours to optimize more time for physical activity and quality time for social and professional interaction among adolescents to improve adolescents life skills.

Table: Mental Health Problems Trend in Malaysia

	NHMS 2012	NHMS 2017	NHMS 2022
Loneliness	8.1	9.3	16.2
Inability to sleep due to worry	5.4	7.1	12.9
Suicidal ideation	7.9	10.0	13.1
Suicidal plan	6.4	7.3	10.0
Suicidal attempt	6.8	6.9	9.5
Not having any close friend	3.1	3.6	4.2

3.7.1.8 References

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3.7.2 Depression

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3.7.2.1 Introduction

Depression is a common mental health problem among adolescents worldwide. Depression can manifest as symptoms such as sadness, guilt, low self-esteem, a lack of happiness, and dissatisfaction with their surroundings.¹ Furthermore, depression can cause individual problems such as difficulty sleeping, loss of appetite, lack of energy, and easy despair, leading to suicidal ideation.² According to the World Health Organization (WHO), depression affects 1.1% of adolescents aged 10-14 years and 2.8% of those aged 15-19 years.³ In Malaysia, the National Health and Morbidity Survey (NHMS) 2019 found that the prevalence of depression was 2.1% among those aged 15 to 19 years old.⁴

3.7.2.2 Objectives

To determine the prevalence of depression among Malaysian adolescents.

3.7.2.3 Variable definitions

Depression : A positive score was defined as a score of 10 and above for Patient Health Questionnaire (PHQ-9), and participants with these scores were categorized as having depression.

3.7.2.4 Findings

Overall, 26.9% (95% CI: 25.84, 27.96) of Malaysian adolescents reported depression. By state, the prevalence was highest in WP Labuan, 34.4% (95% CI: 28.89, 40.40), followed by WP Kuala Lumpur, 32.4% (95% CI: 29.11, 35.86). The prevalence of depression was significantly higher in female adolescents, 36.1% (95% CI: 34.58, 37.68) compared to males, 17.7% (95% CI: 16.69, 18.67). The prevalence increased with age and was highest among Bumiputera Sabah 33.0% (95% CI: 28.99, 37.27) (Table 3.7.7).

3.7.2.5 Discussion

This survey indicated a lower prevalence of depression than research done by Normala et al. among 1800 Malaysian secondary school adolescents aged 13 to 17, which reported a 32.7% prevalence of depression among adolescents. Normala's study employed the same depression-measuring tool, the PHQ-9, but it was limited to 10 of 37 randomly chosen secondary schools in the Hulu Langat district area in the state of Selangor.⁵

3.7.2.6 Conclusion

Overall, 26.9% of adolescents in Malaysia reported being depressed.

3.7.2.7 Recommendations

1. Enhanced the screening of at-risk adolescents by School Health Teams and referral for further management.
2. Holistic intervention programmes targeted to adolescents at risk of depression.
3. Strengthen adolescents coping skills and resilience through interactive health promotion activities.
4. To introduce culturally competent programmes in school that upskill teachers and educate parents about discipline style and pro social parenting techniques.
5. To improve the National school curriculum that teaches life skills such as effective coping strategies and develops mental resilience.
6. To review workplace policies with the aim of strengthening family ties, such as the introduction of flexible working hours or the provision of options to work from home to increase quality time among parents and children.
7. To review school curriculum and teaching hours to optimize more time for physical activity and quality time for social and professional interaction among adolescents to improve adolescents life skills.

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Table 3.7.1 : Prevalence of loneliness “most of the time or always” in the past 12 months among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	5485	337154	16.2	15.50	16.99
State					
Johor	284	36809	14.2	12.43	16.08
Kedah	288	18998	13.1	11.05	15.39
Kelantan	344	16874	15.2	13.40	17.13
Melaka	305	9762	15.1	12.64	17.90
Negeri Sembilan	352	13484	15.4	13.99	16.97
Pahang	356	16756	16.4	14.25	18.87
Pulau Pinang	295	15048	14.3	11.82	17.25
Perak	281	21080	12.7	10.92	14.72
Perlis	303	2893	14.9	12.88	17.22
Selangor	404	75220	19.2	16.91	21.68
Terengganu	330	13949	14.3	11.65	17.51
Sabah	401	39777	19.2	16.15	22.60
Sarawak	385	33772	17.3	15.10	19.78
WP Kuala Lumpur	396	19302	18.4	16.24	20.80
WP Labuan	415	1319	20.3	17.89	22.94
WP Putrajaya	346	2111	17.5	15.21	20.06
Sex					
Male	1795	120919	11.6	10.84	12.50
Female	3690	216236	20.8	19.80	21.90
Form					
Form 1	990	57331	12.7	11.62	13.85
Form 2	1129	70373	16.2	15.02	17.51
Form 3	1128	72563	17.3	15.78	19.03
Form 4	1188	71625	18.3	16.73	19.98
Form 5	1050	65262	17.1	15.87	18.41
Ethnicity					
Malay	3948	223713	17.1	16.27	17.99
Chinese	553	41298	11.0	9.78	12.30
Indian	230	19115	15.5	12.39	19.14
Bumiputera Sabah	403	26874	23.0	19.73	26.56
Bumiputera Sarawak	225	18459	17.4	14.78	20.43
Others	126	7695	16.6	13.07	20.82

Table 3.7.2 : Prevalence of inability to sleep “most of the time or always” due to worry in the past 12 months among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	4380	267571	12.9	12.26	13.54
State					
Johor	251	31942	12.3	10.52	14.28
Kedah	222	14356	9.9	7.72	12.57
Kelantan	251	12046	10.8	8.66	13.46
Melaka	251	7985	12.3	10.70	14.19
Negeri Sembilan	284	11144	12.7	11.00	14.72
Pahang	264	12329	12.1	10.31	14.18
Pulau Pinang	258	13213	12.6	10.58	14.89
Perak	264	19143	11.5	9.69	13.66
Perlis	225	2123	11.0	9.15	13.06
Selangor	304	55278	14.1	12.23	16.21
Terengganu	238	10310	10.6	8.92	12.54
Sabah	315	31019	14.9	12.84	17.33
Sarawak	313	27352	14.0	11.90	16.45
WP Kuala Lumpur	348	16772	16.0	13.93	18.34
WP Labuan	364	1163	17.9	13.60	23.19
WP Putrajaya	228	1396	11.6	9.52	14.00
Sex					
Male	1350	91284	8.8	8.14	9.50
Female	3030	176288	17.0	16.10	17.90
Form					
Form 1	739	43526	9.6	8.69	10.68
Form 2	804	50430	11.6	10.53	12.83
Form 3	874	54383	13.0	11.84	14.26
Form 4	972	56907	14.5	13.37	15.80
Form 5	991	62326	16.3	14.96	17.81
Ethnicity					
Malay	3005	171640	13.1	12.38	13.91
Chinese	536	37044	9.9	8.79	11.03
Indian	204	15730	12.7	10.73	15.02
Bumiputera Sabah	350	21892	18.7	16.09	21.65
Bumiputera Sarawak	189	15545	14.7	11.87	18.01
Others	96	5719	12.3	9.59	15.71

Table 3.7.3 : Prevalence of suicidal ideation in the past 12 months among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	4367	270981	13.1	12.43	13.70
State					
Johor	233	30075	11.6	10.42	12.80
Kedah	191	12363	8.5	6.69	10.75
Kelantan	232	10990	9.9	8.16	11.91
Melaka	262	8311	12.8	10.77	15.25
Negeri Sembilan	273	10559	12.1	10.81	13.47
Pahang	292	13672	13.4	11.72	15.29
Pulau Pinang	249	12559	12.0	10.05	14.16
Perak	272	19944	12.0	10.41	13.81
Perlis	179	1674	8.6	7.20	10.31
Selangor	346	63913	16.3	14.32	18.52
Terengganu	211	9028	9.3	8.33	10.32
Sabah	309	30177	14.5	12.03	17.48
Sarawak	301	26053	13.4	10.85	16.33
WP Kuala Lumpur	390	18857	18.0	16.11	20.06
WP Labuan	357	1149	17.7	13.74	22.46
WP Putrajaya	270	1658	13.8	11.30	16.64
Sex					
Male	1116	78694	7.6	6.97	8.24
Female	3251	192288	18.5	17.57	19.51
Form					
Form 1	882	52588	11.6	10.58	12.80
Form 2	949	61145	14.1	12.75	15.56
Form 3	864	54233	13.0	11.68	14.37
Form 4	896	54010	13.8	12.39	15.34
Form 5	776	49005	12.9	11.64	14.16
Ethnicity					
Malay	2880	167600	12.8	12.09	13.58
Chinese	705	51727	13.8	12.28	15.37
Indian	175	13435	10.9	8.80	13.38
Bumiputera Sabah	313	18710	16.0	13.01	19.49
Bumiputera Sarawak	160	12548	11.8	8.90	15.60
Others	134	6961	15.0	11.63	19.15

Table 3.7.4 : Prevalence of suicidal plan in the past 12 months among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	3356	207634	10.0	9.46	10.57
State					
Johor	172	22450	8.6	7.30	10.17
Kedah	164	10469	7.2	5.66	9.12
Kelantan	195	9229	8.3	6.53	10.50
Melaka	184	5798	9.0	7.16	11.15
Negeri Sembilan	222	8451	9.7	8.44	11.05
Pahang	227	10534	10.3	9.03	11.81
Pulau Pinang	196	9951	9.5	7.75	11.52
Perak	209	15796	9.5	8.10	11.13
Perlis	143	1325	6.8	6.10	7.65
Selangor	271	50098	12.8	11.12	14.66
Terengganu	162	6876	7.1	5.74	8.67
Sabah	223	21725	10.5	8.22	13.24
Sarawak	229	19911	10.2	8.44	12.30
WP Kuala Lumpur	264	12782	12.2	10.50	14.15
WP Labuan	278	908	14.0	10.80	17.93
WP Putrajaya	217	1332	11.0	9.19	13.21
Sex					
Male	840	59242	5.7	5.17	6.30
Female	2516	148392	14.3	13.41	15.23
Form					
Form 1	683	41462	9.2	8.19	10.28
Form 2	755	48946	11.3	10.23	12.44
Form 3	654	39991	9.6	8.55	10.68
Form 4	672	39201	10.0	8.97	11.17
Form 5	592	38034	10.0	8.98	11.07
Ethnicity					
Malay	2251	129044	9.9	9.25	10.53
Chinese	488	36149	9.6	8.13	11.33
Indian	150	12624	10.2	8.17	12.72
Bumiputera Sabah	234	14728	12.6	9.86	15.94
Bumiputera Sarawak	131	10221	9.6	7.49	12.35
Others	102	4869	10.5	7.84	13.94

Table 3.7.5 : Prevalence of suicidal attempt “at least once” in the past 12 months among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	3181	198254	9.5	9.03	10.09
State					
Johor	180	23714	9.1	7.42	11.16
Kedah	157	10032	6.9	5.63	8.44
Kelantan	173	8352	7.5	6.30	8.92
Melaka	172	5373	8.3	6.87	10.01
Negeri Sembilan	216	8380	9.6	7.82	11.71
Pahang	212	9993	9.8	8.39	11.43
Pulau Pinang	189	9736	9.3	7.58	11.29
Perak	198	14789	8.9	7.24	10.92
Perlis	154	1486	7.7	6.15	9.52
Selangor	241	44817	11.4	9.98	13.08
Terengganu	147	6218	6.4	5.36	7.61
Sabah	224	21848	10.5	8.75	12.62
Sarawak	221	19363	9.9	8.15	12.04
WP Kuala Lumpur	253	12141	11.6	9.70	13.79
WP Labuan	259	847	13.0	9.92	16.95
WP Putrajaya	185	1164	9.7	7.59	12.21
Sex					
Male	848	59503	5.7	5.14	6.39
Female	2333	138750	13.4	12.60	14.17
Form					
Form 1	755	45667	10.1	9.16	11.15
Form 2	710	45614	10.5	9.52	11.61
Form 3	630	40278	9.6	8.57	10.80
Form 4	574	34312	8.8	7.77	9.87
Form 5	512	32382	8.5	7.56	9.53
Ethnicity					
Malay	2028	116709	8.9	8.42	9.46
Chinese	509	35879	9.5	8.18	11.10
Indian	172	14267	11.6	9.45	14.07
Bumiputera Sabah	233	14457	12.4	10.35	14.69
Bumiputera Sarawak	135	11292	10.7	8.25	13.67
Others	104	5649	12.2	8.68	16.82

Table 3.7.6 : Prevalence of not having any close friend among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	1389	86704	4.2	3.90	4.47
State					
Johor	72	9584	3.7	2.99	4.53
Kedah	75	4971	3.4	2.50	4.67
Kelantan	92	4691	4.2	3.17	5.59
Melaka	98	3205	5.0	3.89	6.29
Negeri Sembilan	81	3161	3.6	2.92	4.49
Pahang	99	4721	4.6	3.44	6.20
Pulau pinang	88	4596	4.4	3.38	5.65
Perak	99	7677	4.6	3.66	5.82
Perlis	76	725	3.7	2.90	4.81
Selangor	92	17782	4.5	3.70	5.55
Terengganu	110	4812	4.9	3.93	6.21
Sabah	73	7344	3.5	2.73	4.58
Sarawak	88	7824	4.0	3.52	4.56
WP Kuala Lumpur	99	4941	4.7	4.00	5.55
WP Labuan	75	231	3.6	2.60	4.85
WP Putrajaya	72	439	3.6	2.71	4.87
Sex					
Male	587	40525	3.9	3.57	4.27
Female	802	46179	4.4	4.05	4.89
Form					
Form 1	311	19949	4.4	3.87	5.04
Form 2	286	18458	4.3	3.61	5.01
Form 3	277	18038	4.3	3.62	5.14
Form 4	261	15714	4.0	3.38	4.77
Form 5	254	14545	3.8	3.25	4.47
Ethnicity					
Malay	990	57776	4.4	4.05	4.82
Chinese	166	12117	3.2	2.66	3.90
Indian	82	6317	5.1	3.91	6.64
Bumiputera Sabah	62	4078	3.5	2.27	5.31
Bumiputera Sarawak	52	4339	4.1	3.39	4.94
Others	37	2076	4.5	3.06	6.50

Table 3.7.7 : Prevalence of depression among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	9103	556498	26.9	25.84	27.96
State					
Johor	453	58564	22.6	19.41	26.17
Kedah	520	33162	22.9	19.39	26.77
Kelantan	578	27998	25.2	21.93	28.74
Melaka	509	15983	24.8	21.47	28.52
Negeri Sembilan	577	22553	25.9	23.59	28.29
Pahang	572	26564	26.2	23.01	29.76
Pulau Pinang	501	25628	24.5	21.27	28.00
Perak	513	37731	22.8	20.07	25.89
Perlis	485	4623	23.9	21.30	26.74
Selangor	679	124503	31.8	28.64	35.13
Terengganu	529	22441	23.1	19.82	26.69
Sabah	621	61458	29.7	26.30	33.30
Sarawak	647	56078	28.9	24.96	33.15
WP Kuala Lumpur	695	33759	32.4	29.11	35.86
WP Labuan	695	2231	34.4	28.89	40.40
WP Putrajaya	529	3222	26.7	23.46	30.30
Sex					
Male	2682	182847	17.7	16.69	18.67
Female	6421	373651	36.1	34.58	37.68
Form					
Form 1	1704	101399	22.6	21.18	24.02
Form 2	1882	117524	27.2	25.58	28.83
Form 3	1802	112513	27.0	25.08	28.94
Form 4	1882	110606	28.4	26.61	30.16
Form 5	1833	114456	30.1	28.22	31.95
Ethnicity					
Malay	6504	373425	28.7	27.46	29.89
Chinese	1065	77209	20.6	18.31	23.05
Indian	328	24848	20.2	17.59	23.04
Bumiputera Sabah	619	38545	33.0	28.99	37.27
Bumiputera Sarawak	358	29298	27.7	22.98	32.99
Others	229	13172	28.6	23.44	34.38

3.8 Physical Activity

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3.8.1 Introduction

World Health Organization (WHO) defines physical activity as any bodily movement produced by skeletal muscles that require energy expenditure¹. According to WHO, children and adolescents between the ages of 5 and 17 should engage in physical exercise for at least 60 minutes each day¹. Sufficient physical activity has substantial health benefits for children and adolescents in terms of improved cardio-metabolic health, musculoskeletal health as well as a better psychosocial wellbeing and academic performance². Despite these proven advantages, many young individuals fall short of recommended levels of physical activity. Adolescents are additionally exposed to sedentary lives because the majority of them spend more time engaged in screen-based entertainment and digital communications as hobbies³. Agenda National Malaysia Sihat (ANMS) and National Strategic Plan for Active Living (NASPAL) has been targeting to enhance the uptake of healthy habits among Malaysians which includes reducing the prevalence of physical inactivity among the general population, including adolescents by 10% within 10 years of its implementation⁴. Hence, this study will provide more information regarding physical activity and sedentary behaviour among adolescents in Malaysia.

3.8.2 Objectives

- To identify the prevalence of being physically active for a total of at least 60 minutes daily for five days or more in the past seven days among adolescents in Malaysia.
- To identify the prevalence of active transportation or commuting among adolescents in Malaysia.
- To identify the prevalence of sitting behaviour among adolescents in Malaysia.

3.8.3 Variable Definitions

- Physically active: physically active for at least 60 minutes per day, for a minimum of five days per week (sum of all the time spent in any kind of physical activity each day).
- Active transportation/ commuting: walking or riding a bicycle for at least three days a week to or from school.
- Sitting behaviour: Spending time sitting for 3 hours or more in a typical or usual day for leisure activities such as watching television, playing computer games, talking with friends, or surfing the internet.

3.8.4 Findings

Physically active

The prevalence of being physically active was 21.4% (95% CI: 20.45, 22.37) among adolescents in Malaysia, with an estimated projection of 443,432 secondary school adolescents. The highest prevalence was observed in WP Putrajaya [27.3% (95% CI: 21.78, 33.69)], followed by Melaka [24.8% (95% CI: 20.07, 30.20)] and Negeri Sembilan [24.7% (95% CI: 21.36, 28.44)]. Males were found to be significantly more physically active [28.1% (95% CI: 26.82, 29.43)] compared to females [14.7% (95% CI: 13.68, 15.75)]. (Table 3.8.1).

Active Transportation/ Commuting

Overall, 27.0% (95% CI: 24.57, 29.55) adolescents reported active transportation to school. By state, the prevalence was highest in WP Putrajaya [46.9% (95% CI: 35.26, 58.87)], followed by WP Kuala Lumpur [36.6% (95% CI: 26.63, 47.85)] and Melaka [33.3% (95% CI: 23.65, 44.62)]. The prevalence was higher among males [28.4% (95% CI: 25.73, 31.31)] compared to females [25.5% (95% CI: 23.05, 28.19)]. (Table 3.8.2).

Sitting behaviour

A total of 66.7% (95% CI: 65.32, 67.98) had spent at least three hours in a typical or usual day engaging in sitting activities. The highest prevalence was observed in WP Putrajaya [74.3% (95% CI: 70.44, 77.87)], followed by WP Kuala Lumpur [72.8% (95% CI: 69.98, 75.47)] and Selangor [72.5% (95% CI: 69.20, 75.59)]. Females were found to engage in more sitting activities [67.5% (95% CI: 65.95, 69.05)] compared to males [65.8% (95% CI: 64.32, 67.25)]. (Table 3.8.3).

3.8.5 Discussion

From the findings, most secondary school adolescents did not engage in sufficient physical activity, 60 minutes per day, five days per week. However, this survey revealed that the prevalence of adolescents who were physically active for a total of at least 60 minutes daily for five days or more in the past seven days showed a slight improvement (21.4%) compared to the previous NHMS 2017 (19.8%)⁵. This prevalence is relatively high compared to other middle-income countries, such as Brunei (12.7%), Indonesia (12.9%), Vietnam (19.7%), Nepal (15.2%), and Bhutan (14.4%) which utilised a comparable instruments for data collection³. About 42.1% of adolescents in the Asia-Pacific region reported using active transportation in 2019, with the prevalence falling as the nation's economic situation improved. Based on the study on active commuting in 27 Asia-Pacific countries, the prevalence was 48.9% in low- and lower-middle-income countries, 33.3% in upper-middle-income countries, and 27.4% in high-income countries⁶. However, our study found a lower prevalence of active transportation (27.0%) compared to the pooled prevalence for upper-middle-income countries. There was an increase in the prevalence of sitting behaviour compared to the previous survey, with the current study

showing a prevalence of 66.7%, compared to 50.1% in NHMS 2017 and 47.3% in GSHS 2012^{5,7}. The Malaysian Youth Index 2020 reported that adolescents' average time spent on mobile phones and the internet was 4-5 hours per day⁸.

3.8.6 Conclusion

Only one out of five adolescents in Malaysia were physically active and 27.1% of active transportation were observed in our study. In addition, two out of three adolescents practised sedentary behavior. As lack of physical activity and an increase in sedentary activities may lead to negative health impacts, these findings should serve as a wake-up call to the various agencies responsible for developing a coherent approach.

3.8.7 Recommendations

A comprehensive, integrated, intersectoral approach is required to increase the prevalence of physical activity among secondary school adolescents. Realising that the social determinants of active living extend beyond the health sectors, initiatives and collaborative efforts undertaken across different ministries or agencies, would indeed produce success. The recommendations as below:

1. To explore more behaviour science and behaviour insights that play a part in physical inactivity and sedentary behavior among adolescents in Malaysia. This would facilitate program managers to design evidence-based health promotion and education initiatives with effective 'nudging' techniques.
2. To examine the association between the frequency of engaging in online-related activities (time spent on social media, online communication, and e-games) with levels of physical activity and sedentary behaviour in a more specific manner.
3. To encourage and support their children's participation in physical activity, parents should be included in the interventions and health promotion programs carried out.

3.8.8 References

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Table: Physical Activity trend in Malaysia

	NHMS 2012	NHMS 2017	NHMS 2022
Physical activity	22.7%	19.8%	21.4%
Active transportation	-	-	27.0%
Sitting behaviour	47.3%	50.1%	66.7%

Table 3.8.1: Prevalence of being physically active (at least 60 minutes daily) for a total of 5 days or more in the past 7 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	7168	443432	21.4	20.45	22.37
State					
Johor	406	52412	20.2	17.69	22.89
Kedah	397	27885	19.2	16.02	22.81
Kelantan	409	21675	19.5	16.18	23.3
Melaka	479	16036	24.8	20.07	30.2
N. Sembilan	542	21569	24.7	21.36	28.44
Pahang	533	25032	24.6	20.42	29.25
Penang	391	20260	19.4	16.84	22.19
Perak	491	40923	24.7	19.11	31.24
Perlis	390	3884	20.1	15.79	25.14
Selangor	448	90353	23.1	21.22	25.11
Terengganu	453	20587	21.2	17.58	25.23
Sabah	398	40430	19.6	16.65	22.87
Sarawak	376	34386	17.6	14.9	20.75
WP Kuala Lumpur	459	23249	22.2	19.26	25.51
WP Labuan	448	1454	22.4	17.85	27.67
WP Putrajaya	548	3296	27.3	21.78	33.69
Sex					
Male	4467	291047	28.1	26.82	29.43
Female	2701	152385	14.7	13.68	15.75
Form					
Form 1	1396	88640	19.7	18.26	21.24
Form 2	1428	92226	21.3	19.6	23.12
Form 3	1460	92551	22.2	20.46	23.95
Form 4	1511	83965	21.5	19.9	23.13
Form 5	1373	86050	22.6	20.74	24.49
Ethnicity					
Malay	5046	283731	21.7	20.58	22.93
Chinese	901	68059	18.1	16.08	20.37
Indian	471	39253	31.9	28.65	35.33
Bumiputera Sabah	384	25809	22.1	18.89	25.63
Bumiputera Sarawak	206	17256	16.3	14.02	18.9
Others	160	9324	20.2	16.75	24.07

Table 3.8.2 : Prevalence of active commuting to school (walk or ride a bicycle to or from school for at least 3 days or more in the past 7 days) among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	9199	559278	27.0	24.57	29.55
State					
Johor	414	53978	20.8	13.84	29.92
Kedah	528	35599	24.5	17.79	32.72
Kelantan	619	31340	28.2	20.09	37.99
Melaka	666	21530	33.3	23.65	44.62
N. Sembilan	583	23199	26.6	18.91	36.09
Pahang	678	31877	31.3	20.88	43.96
Penang	463	23722	22.7	16.00	31.10
Perak	565	44193	26.7	16.25	40.54
Perlis	414	4116	21.3	12.37	34.01
Selangor	641	123615	31.6	24.70	39.45
Terengganu	614	27321	28.1	18.70	39.87
Sabah	567	57409	27.8	23.13	33.07
Sarawak	406	36348	18.6	14.65	23.43
WP Kuala Lumpur	755	38226	36.6	26.63	47.85
WP Labuan	366	1153	17.8	14.13	22.09
WP Putrajaya	920	5652	46.9	35.26	58.87
Sex					
Male	4574	294372	28.4	25.73	31.31
Female	4625	264905	25.5	23.05	28.19
Form					
Form 1	1900	117755	26.2	23.56	29.01
Form 2	1815	116154	26.8	24.22	29.63
Form 3	1764	110263	26.4	23.60	29.40
Form 4	1922	107670	27.5	24.27	31.05
Form 5	1798	107435	28.2	24.87	31.71
Ethnicity					
Malay	7240	409023	31.3	28.31	34.53
Chinese	652	46815	12.5	9.81	15.71
Indian	369	31438	25.6	20.69	31.12
Bumiputera Sabah	472	36857	31.6	26.78	36.78
Bumiputera Sarawak	271	23479	22.2	18.70	26.15
Others	195	11666	25.3	20.83	30.33

Table 3.8.3: Prevalence of spending at least 3 hours in sitting activities among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	22346	1380667	66.7	65.32	67.98
State					
Johor	1409	181325	69.9	65.78	73.65
Kedah	1328	88474	60.9	55.68	65.90
Kelantan	1268	64844	58.3	54.53	62.03
Melaka	1381	45140	69.9	66.32	73.28
N. Sembilan	1410	55833	64.0	60.28	67.64
Pahang	1457	67809	66.6	62.51	70.49
Penang	1438	72850	69.7	64.29	74.52
Perak	1464	114396	69.2	65.23	72.84
Perlis	1317	12635	65.3	61.32	69.10
Selangor	1476	283478	72.5	69.20	75.59
Terengganu	1354	59159	60.8	54.73	66.54
Sabah	1227	121806	59.1	52.70	65.13
Sarawak	1391	123466	63.4	57.62	68.73
WP Kuala Lumpur	1540	76023	72.8	69.98	75.47
WP Labuan	1402	4472	68.9	62.67	74.49
WP Putrajaya	1484	8959	74.3	70.44	77.87
Sex					
Male	10146	680607	65.8	64.32	67.25
Female	12200	700060	67.5	65.95	69.05
Form					
Form 1	3911	241385	53.7	51.72	55.66
Form 2	4413	279464	64.7	62.50	66.75
Form 3	4615	293980	70.5	68.31	72.52
Form 4	4935	289012	73.9	71.88	75.90
Form 5	4472	276826	72.6	70.65	74.48
Ethnicity					
Malay	15230	856950	65.7	64.15	67.24
Chinese	3947	294215	78.4	76.71	79.93
Indian	796	64036	52.0	47.79	56.27
Bumiputera Sabah	1135	74077	63.4	59.18	67.47
Bumiputera Sarawak	748	62855	59.5	53.05	65.60
Others	490	28535	62.0	56.56	67.09

3.9 Protective Factors

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3.9.1 Introduction

Protective factors are individual or environmental characteristics or conditions that promote adolescent health and well-being¹. The role of protective factors in adolescents is to improve the likelihood of positive health behaviours or outcomes (such as healthy diet, exercise, hygiene practices) and to reduce the negative impacts of risk factors (for example tobacco, alcohol and drug use, violence). Multiple protective factors at school, peer and family levels can foster healthy behaviours and promote mental health². At the school level, truancy is seen as an indicator that is monitored by lower prevalence, as truancy often acts as a precursor of many harmful behaviours. During adolescence, peer support and parental factors can be fundamental aspects of establishing positive health behaviours to prevent chronic diseases. In line with the strategies stated in the National Adolescent Health Policy, this study focuses on identifying protective factors at family, school, and peer levels that influence adolescent health and integrating these protective factors into health promotion among adolescents.

3.9.2 Objectives

- To determine the prevalence of truancy in the past 30 days among adolescents in Malaysia
- To determine the prevalence of peer support in the past 30 days among adolescents in Malaysia
- To determine the prevalence of parental or guardian supervision in the past 30 days among adolescents in Malaysia
- To determine the prevalence of parental or guardian connectedness in the past 30 days among adolescents in Malaysia
- To determine the prevalence of parental or guardian bonding in the past 30 days among adolescents in Malaysia
- To determine the prevalence of parental or guardian respect for privacy in the past 30 days among adolescents in Malaysia

3.9.3 Variable definitions

- Truancy:** Missed class or school without permission for at least one day in the past 30 days. (This variable targets lower prevalence to define it as a protective factor)
- Peer support:** Adolescents in their school were kind and helpful most of the time or always during the past 30 days.

- Parental or guardian supervision:** Parents or guardians had always or most of the time, checked to see if their homework was done in the past 30 days.
- Parental or guardian connectedness:** Parents or guardians had always or most of the time, understood their problems and worries in the past 30 days.
- Parental or guardian bonding:** Parents or guardians had always or most of the time, really knew what they were doing with their free time in the past 30 days.
- Parental or guardian respect for privacy:** Parents or guardians had never or rarely gone through their things without their approval in the past 30 days.

3.9.4 Findings

Truancy

The prevalence of truancy in the past 30 days among adolescents was 25.6% (95% CI: 24.25, 26.98). It was higher among males (26.6%, 95% CI: 25.12, 28.19) compared to females (24.6%, 95% CI: 23.08, 26.12). Truancy was highest in Sabah state with 33.3% (95% CI: 28.66, 38.39) (Table 3.9.1).

Having Peer Support

The prevalence of having peer support in the past 30 days among adolescents was 46.0% (95% CI: 44.34, 47.68) which was significantly higher among females (52.4%, 95% CI: 50.81, 53.98) compared to males (39.6%, 95% CI: 37.46, 41.70). Having peer support was highest in WP Putrajaya with 57.4% (95% CI: 51.67, 62.94) (Table 3.9.2).

Having Parental or Guardian Supervision

The prevalence of having parental or guardian supervision in the past 30 days among adolescents was 9.9% (95% CI: 9.35, 10.53) which was significantly higher among males (11.1%, 95% CI: 10.34, 11.86) compared to females (8.8%, 95% CI: 8.17, 9.45). Having parental or guardian supervision was highest in Sarawak state with 11.5% (95% CI: 9.91, 13.32) (Table 3.9.3).

Having Parental or Guardian Connectedness

The prevalence of having parental or guardian connectedness in the past 30 days among adolescents was 24.2% (95% CI: 23.23, 25.16) which was significantly higher among males (25.9%, 95% CI: 24.65, 27.22) compared to females (22.5%, 95% CI: 21.41, 23.56). Having parental or guardian connectedness was highest in Perlis state with 28.6% (95% CI: 24.79, 32.64). (Table 3.9.4).

Having Parental or Guardian Bonding

The prevalence of having parental or guardian bonding in the past 30 days among adolescents was 33.4% (95% CI: 32.36, 34.47) which was significantly higher among males (35.5%, 95% CI: 34.00, 36.93) compared to females (31.4%, 95% CI: 30.22, 32.56). Having parental or guardian bonding was highest in Perlis state with 38.8% (95% CI: 35.89, 41.78) (Table 3.9.5).

Having Parental or Guardian Respect for Privacy

The prevalence of having parental or guardian respect for privacy in the past 30 days among adolescents was 81.7% (95% CI: 81.03, 82.44) which was significantly higher among females (83.3%, 95% CI: 82.42, 84.19) compared to males (80.2%, 95% CI: 79.22, 81.04). Having parental or guardian respect for privacy was highest in Pahang state with 84.3% (95% CI: 81.64, 86.60) (Table 3.9.6).

3.9.5 Discussion

Prevalence of truancy showed a decreasing trend in 2022 with 25.6% compared to 30.9% in GSHS 2012⁴ and 29.4% in NHMS 2017³. Truancy does matter because these adolescents might under perform in terms of academics, having lower levels of self-esteem, which would subsequently affect their quality and economic status in adult life⁵. Prevalence of peer support showed an increasing trend in 2022 with 46.0% compared to 44.3% in GSHS 2012⁴ and 44.2% in NHMS 2017³. Perceived peer support is important to develop motivation, engagement and emotional support⁶. Parental or guardian factors (supervision, connectedness and bonding) showed a decreasing trend in 2022 compared with GSHS 2012⁴ and NHMS 2017³; except for parental or guardian respect for privacy. Prevalence of parental or guardian supervision was only 9.9% in 2022 compared to 14.2% in GSHS 2012⁴ and 13.2% in NHMS 2017³. Prevalence of parental or guardian connectedness was 24.2% in 2022 compared to 31.5% in NHMS 2012⁴ and 32.0% in NHMS 2017³. Prevalence of parental or guardian bonding showed a decreasing trend in 2022 with 33.4% compared to 43.1% in GSHS 2012⁴ with and 42.6% in NHMS 2017³. Only prevalence of parental or guardian respect for privacy showed an increasing trend in 2022 with 81.7% compared to 74.0% in GSHS 2012⁴ and 74.4% in NHMS 2017³. Clearly, parents' parenting practises and styles have a significant impact on adolescent achievements, which has an impact on behaviours into adulthood⁷.

3.9.6 Conclusion

Parental protective factors which were parent or guardian supervision, connectedness and bonding showed a decreasing trend. This is quite worrisome because parent/guardian-adolescent relation is a strong protective factor by providing a secure base for them especially in social support and might determine their children's lives and behaviour during adolescence. Therefore, comprehensive intervention policies or programs must be further designed to address and to tackle this issue.

3.9.7 Recommendations

To enhance the outcomes for school-aged adolescents, it is crucial to develop interventions that bolster their protective qualities and are more efficient in lowering risk. Among the interventions that can be implemented are:

1. Monitoring attendance closely by schools, parents and local organisations through enforcement of mandatory attendance allows identification of truant behaviour among school-going adolescents.
2. Establishment of school programs that need parent's supervision will help in improving parenting skills especially in the area of parental attachment.

Table: Protective Factors Trend in Malaysia

	NHMS 2012	NHMS 2017	NHMS 2022
Truancy	30.9	29.4	25.6
Having peer support	44.3	44.2	46.0
Having parental or guardian supervision	14.2	13.2	9.9
Having parental or guardian connectedness	31.5	32.0	24.2
Having parental or guardian bonding	43.1	42.6	33.4
Having parental or guardian respect for privacy	74.0	74.4	81.7

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Table 3.9.1: Prevalence of truancy in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	8412	524050	25.6	24.25	26.98
State					
Johor	440	57242	22.0	18.03	26.63
Kedah	587	39470	27.2	23.82	30.81
Kelantan	638	33397	30.0	26.10	34.27
Melaka	512	16657	25.7	21.43	30.58
Negeri Sembilan	500	20686	23.8	18.92	29.49
Pahang	539	25135	25.0	21.02	29.54
Pulau Pinang	385	20325	19.8	13.58	27.86
Perak	525	41704	25.1	21.11	29.63
Perlis	462	4502	25.5	22.04	29.38
Selangor	515	97224	25.0	21.02	29.54
Terengganu	665	29333	30.1	26.18	34.42
Sabah	623	63354	33.3	28.66	38.39
Sarawak	492	45030	23.1	19.60	27.01
WP Kuala Lumpur	528	25624	24.7	20.21	29.85
WP Labuan	619	1938	29.8	26.95	32.87
WP Putrajaya	382	2432	20.2	16.39	24.71
Sex					
Male	4058	271365	26.6	25.12	28.19
Female	4354	252685	24.6	23.08	26.12
Form					
Form 1	1401	86459	19.7	18.05	21.38
Form 2	1506	96249	22.5	20.95	24.11
Form 3	1618	106649	25.8	23.72	28.08
Form 4	1919	112860	29.2	26.67	31.80
Form 5	1968	121834	32.1	29.79	34.41
Ethnicity					
Malay	6330	368279	28.5	27.00	30.13
Chinese	662	49681	13.3	11.17	15.79
Indian	314	24719	20.3	16.90	24.15
Bumiputera Sabah	560	39954	35.9	32.72	39.16
Bumiputera Sarawak	319	27939	26.4	22.19	31.18
Others	227	13478	29.9	25.44	34.71

Table 3.9.2: Prevalence of having peer support in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	15532	941300	46.0	44.34	47.68
State					
Johor	895	115119	44.4	38.21	50.69
Kedah	969	62589	43.2	37.25	49.27
Kelantan	942	46619	41.9	37.77	46.22
Melaka	847	27260	42.2	36.11	48.50
Negeri Sembilan	999	38566	44.4	37.38	51.59
Pahang	958	43908	43.8	39.03	48.65
Pulau Pinang	961	48995	47.6	41.67	53.69
Perak	1020	78347	47.2	40.82	53.69
Perlis	921	8757	49.7	44.11	55.25
Selangor	996	190419	49.0	43.98	54.12
Terengganu	925	40151	41.3	35.69	47.06
Sabah	899	88757	46.8	42.61	51.12
Sarawak	1028	90529	46.4	42.94	49.96
WP Kuala Lumpur	1058	51294	49.6	43.87	55.27
WP Labuan	972	3089	47.5	42.21	52.93
WP Putrajaya	1142	6900	57.4	51.67	62.94
Sex					
Male	6049	402855	39.6	37.46	41.70
Female	9483	538445	52.4	50.81	53.98
Form					
Form 1	2740	163819	37.3	35.06	39.54
Form 2	2969	183572	42.9	40.37	45.54
Form 3	3114	194226	47.1	44.37	49.84
Form 4	3398	197521	51.1	48.34	53.81
Form 5	3311	202162	53.2	50.31	56.09
Ethnicity					
Malay	10834	591909	45.9	44.02	47.81
Chinese	2270	169320	45.4	40.91	49.93
Indian	649	55218	45.3	40.52	50.12
Bumiputera Sabah	851	57123	51.5	47.62	55.31
Bumiputera Sarawak	592	49261	46.6	43.04	50.21
Others	336	18470	41.0	36.89	45.32

Table 3.9.3: Prevalence of having parental or guardian supervision in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	3250	203099	9.9	9.35	10.53
State					
Johor	222	29043	11.2	9.22	13.54
Kedah	242	16324	11.2	8.53	14.70
Kelantan	202	11175	10.0	8.31	12.10
Melaka	206	6565	10.1	8.38	12.24
Negeri Sembilan	246	9481	10.9	8.78	13.50
Pahang	182	8821	8.8	7.07	10.89
Pulau Pinang	184	9826	9.6	7.72	11.85
Perak	198	15454	9.3	7.39	11.66
Perlis	189	1873	10.6	9.10	12.39
Selangor	155	30021	7.7	6.34	9.41
Terengganu	231	10126	10.4	8.93	12.11
Sabah	217	21219	11.2	9.31	13.42
Sarawak	253	22430	11.5	9.91	13.32
WP Kuala Lumpur	175	9111	8.8	7.71	10.01
WP Labuan	159	523	8.1	6.84	9.47
WP Putrajaya	189	1107	9.2	6.96	12.08
Sex					
Male	1701	112801	11.1	10.34	11.86
Female	1549	90299	8.8	8.17	9.45
Form					
Form 1	1050	66821	15.2	13.93	16.62
Form 2	763	48982	11.5	10.38	12.62
Form 3	565	36486	8.8	7.94	9.84
Form 4	481	26940	7.0	6.16	7.87
Form 5	391	23871	6.3	5.41	7.28
Ethnicity					
Malay	2052	111284	8.6	8.06	9.24
Chinese	388	28038	7.5	6.42	8.79
Indian	425	35439	29.1	25.66	32.75
Bumiputera Sabah	160	11595	10.4	8.41	12.91
Bumiputera Sarawak	139	11665	11.0	8.82	13.71
Others	86	5078	11.3	8.92	14.18

Table 3.9.4: Prevalence of having parental or guardian connectedness in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	8150	494708	24.2	23.23	25.16
State					
Johor	494	63753	24.6	21.46	27.96
Kedah	562	37436	25.8	21.72	30.32
Kelantan	521	27150	24.4	22.08	26.93
Melaka	499	16065	24.9	21.02	29.14
Negeri Sembilan	570	22171	25.5	21.89	29.50
Pahang	545	25539	25.4	21.64	29.65
Pulau Pinang	508	26568	25.9	23.74	28.15
Perak	552	43148	26.0	22.08	30.32
Perlis	513	5024	28.6	24.79	32.64
Selangor	431	84235	21.7	19.09	24.54
Terengganu	591	26056	26.8	22.87	31.08
Sabah	465	46011	24.3	21.36	27.53
Sarawak	476	42397	21.8	19.60	24.10
WP Kuala Lumpur	486	24657	23.8	21.00	26.91
WP Labuan	386	1224	18.9	16.40	21.59
WP Putrajaya	551	3275	27.3	23.11	31.84
Sex					
Male	4064	263812	25.9	24.65	27.22
Female	4086	230896	22.5	21.41	23.56
Form					
Form 1	1924	118204	26.9	25.19	28.70
Form 2	1628	101289	23.7	22.03	25.48
Form 3	1495	95497	23.1	21.62	24.75
Form 4	1585	91090	23.6	21.98	25.21
Form 5	1518	88629	23.3	21.66	25.08
Ethnicity					
Malay	5706	309478	24.0	22.82	25.22
Chinese	1076	79740	21.4	19.56	23.33
Indian	549	44718	36.7	33.46	39.99
Bumiputera Sabah	371	25797	23.2	20.33	26.44
Bumiputera Sarawak	274	23855	22.6	20.01	25.44
Others	174	11121	24.8	21.33	28.68

Table 3.9.5: Prevalence of having parental or guardian bonding in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	11056	683058	33.4	32.36	34.47
State					
Johor	695	89235	34.4	30.58	38.46
Kedah	775	51592	35.6	30.53	40.94
Kelantan	698	36161	32.5	29.59	35.62
Melaka	686	22315	34.6	31.90	37.35
Negeri Sembilan	727	28543	32.9	29.14	36.81
Pahang	700	32622	32.5	29.99	35.03
Pulau Pinang	705	36586	35.7	33.52	37.98
Perak	768	60888	36.7	33.99	39.44
Perlis	704	6832	38.8	35.89	41.78
Selangor	646	124692	32.1	28.87	35.54
Terengganu	738	32424	33.4	29.97	36.92
Sabah	596	59486	31.5	28.94	34.19
Sarawak	664	60025	30.8	28.37	33.37
WP Kuala Lumpur	713	35779	34.5	30.96	38.31
WP Labuan	559	1767	27.2	24.98	29.52
WP Putrajaya	682	4112	34.2	31.20	37.34
Sex					
Male	5431	360569	35.5	34.00	36.93
Female	5625	322489	31.4	30.22	32.56
Form					
Form 1	2281	143547	32.7	30.84	34.63
Form 2	2231	138076	32.3	30.61	34.04
Form 3	2151	139118	33.7	31.69	35.86
Form 4	2255	132763	34.3	32.34	36.41
Form 5	2138	129554	34.1	32.62	35.69
Ethnicity					
Malay	7502	412454	32.0	30.72	33.30
Chinese	1715	128032	34.3	32.35	36.41
Indian	724	60821	49.9	45.25	54.62
Bumiputera Sabah	529	36299	32.8	30.93	34.65
Bumiputera Sarawak	369	32138	30.5	27.29	33.90
Others	217	13315	29.6	25.79	33.76

Table 3.9.6: Prevalence of having parental or guardian respect for privacy in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	27058	1670878	81.7	81.03	82.44
State					
Johor	1618	209485	80.8	78.30	83.05
Kedah	1797	119954	82.6	81.02	84.15
Kelantan	1811	93535	84.1	81.83	86.12
Melaka	1599	52060	80.8	78.85	82.56
Negeri Sembilan	1773	69956	80.5	78.58	82.33
Pahang	1799	84617	84.3	81.64	86.60
Pulau Pinang	1603	82679	80.8	79.20	82.30
Perak	1761	137034	82.7	80.90	84.41
Perlis	1480	14189	80.5	77.97	82.85
Selangor	1692	321557	82.8	80.03	85.27
Terengganu	1864	81681	84.0	82.15	85.73
Sabah	1526	150728	79.9	78.02	81.62
Sarawak	1735	154196	79.2	76.97	81.19
WP Kuala Lumpur	1708	84002	81.2	78.91	83.30
WP Labuan	1671	5320	81.9	80.44	83.24
WP Putrajaya	1621	9883	82.3	80.53	83.86
Sex					
Male	12149	814730	80.2	79.22	81.04
Female	14909	856148	83.3	82.42	84.19
Form					
Form 1	5511	346497	78.9	77.59	80.18
Form 2	5355	336451	78.8	77.30	80.26
Form 3	5273	337410	81.9	80.48	83.16
Form 4	5623	325011	84.1	82.61	85.47
Form 5	5296	325509	85.8	84.49	87.02
Ethnicity					
Malay	18846	1066615	82.8	82.04	83.45
Chinese	4144	307806	82.7	81.12	84.13
Indian	1129	88639	72.8	67.84	77.21
Bumiputera Sabah	1359	90554	81.8	79.24	84.13
Bumiputera Sarawak	971	82468	78.2	75.11	80.96
Others	609	34795	77.5	73.13	81.35

3.10 Sexual Behaviours

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3.10.1 Introduction

Adolescent sexual behaviour contributes to various sexual and reproductive health issues. The Global Summary HIV Epidemic Report, there were 150,000 adolescents aged 10-19 that were newly infected with HIV while 1,750,000 adolescents were already living with HIV¹. It was also reported that the highest rate of sexual transmitted illness (STI) worldwide is among young people aged 15 to 24 years². In Malaysia, the incidence of HIV reported among adolescents aged 13 to 19 was 2.4 per 100,000 population in 2021 and this trend has been steadily increasing in the past 10 years². The WHO reported that 50% of young unmarried girls aged 15 to 19 years in low- and middle-income countries had an unintended pregnancy in 2019³. Globally, there were 41 births per 1000 girls aged 15-19 years in 2020 and 14% of maternal deaths.

Good knowledge of HIV would help in reducing the transmission as shown in a study that a person with inadequate knowledge of HIV is more vulnerable to acquire the infection and may spread the disease throughout the population⁴. Good knowledge on HIV transmission was also associated with intention to engage in low-risk sexual behaviour⁵. Therefore, this study also aims to assess the knowledge of HIV transmission based on United Nation General Assembly Special Session (UNGASS) indicators among the school adolescents to determine the prevalence of HIV knowledge among them.

3.10.2 Objectives

To determine:

- the prevalence of ever having sexual intercourse among adolescents in Malaysia
- the prevalence of current sexual intercourse in the past 30 days among adolescents in Malaysia
- the percentage of first sexual experience before the age 14 years among those who ever had sex
- the percentage of having at least two sexual partners among those who ever had sex
- the percentage of condom usage during the last sexual intercourse among those who ever had sex
- the percentage of "other birth control methods" usage during the last sexual intercourse among those who ever had sex.
- the prevalence of adequate HIV knowledge among adolescents in Malaysia
- the percentage of correct responses in each of UNGASS indicators among adolescents in Malaysia

3.10.3 Variable Definitions

- Sexual intercourse:** sexual acts of penile penetration into the vagina or anus.
- Risky sexual behaviour:** behaviours such as early sex debut, multiple sex partners and unprotected sex that could lead to health problems.
- Other birth control methods:** pregnancy prevention methods other than barrier methods (condom usage) including withdrawal, birth control pills or any other non-barrier methods.
- Ever had sex:** any positive answer for first sexual intercourse.
- Current sexual intercourse:** sexual intercourse in the past 30 days.
- Adequate HIV Knowledge:** provided correct responses to all five items of UNGASS indicators/questions.

3.10.4 Findings

Prevalence of ever had sex among adolescents in Malaysia was 7.6% (95% CI: 7.00, 8.17) of which the highest was in Kelantan with prevalence of 9.5% (95% CI: 7.27, 12.34) and the lowest prevalence was in Selangor with 5.6% (95% CI: 4.53, 7.00). Male adolescents showed significantly higher prevalence 9.2% (95% CI: 8.27, 10.11) compared to females, 6.0% (95% CI: 5.42, 6.62). (**Table 3.10.1**). Prevalence of current sexual intercourse among adolescents in Malaysia was 5.7% (95% CI: 5.21, 6.13) and the highest in Kelantan with prevalence of 7.3% (95% CI: 5.32, 9.82) and lowest in Selangor with 4.4% (95%CI: 3.33, 5.83). Male adolescents had significantly higher prevalence of currently having sexual intercourse which was 6.7% (95% CI: 5.95, 7.46) compared to female; 4.7% (95% CI: 4.18, 5.17). (**Table 3.10.2**). Of those who ever had sex, 32.8% had sex before the age of 14. It was noted that 10.7% of those who ever had sex, had at least two sexual partners and only 11.8% of them used condom during their last sexual intercourse while 11.9% used other birth control methods. (**Table 3.10.3**)

Overall, the prevalence of adequate HIV knowledge among adolescents was 1.3% (95% CI: 1.07,1.67). The state Penang had the highest prevalence with 2.5% (95% CI:1.46,4.42) while the lowest prevalence of HIV knowledge was in Terengganu with 0.5% (95% CI: 0.22,1.02). (**Table 3.10.4**). The percentage of correct responses by each item was highest for question "Can a person get HIV from mosquito bites?" with 26.9%. Followed by question "Can a healthy-looking person have HIV?" with 26.4%. Next item was "Can a person get HIV by sharing food with someone who is infected?" with the percentage of 19.6%. For the question "Can a person reduce the risk of getting HIV using a condom every time they have sex?" the percentage was only 16.4%. While the least was 13.4% for "Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partner?" (**Table 3.10.5**).

3.10.5 Discussion

The prevalence of sexual activity among Malaysian adolescents was relatively low compared to developed countries such as the USA which was estimated 50% among their adolescents aged 15-19 years that has been engaged with sexual behaviour⁶. The prevalence of ever had sex in Malaysia was 7.6% in this study noted to have similar prevalence from the Malaysian Adolescent Health Survey (AHS) 2017 with 7.3% while in Global School-based Student Health Survey (GSHS) 2012 it was 8.3%⁷. In neighbouring countries such as Brunei, the prevalence of ever had sexual intercourse was 5.7% in 2019 which decreased by more than half from 11.2% in 2015. While in Thailand, the prevalence was 18.7% in 2015 and reduced to 17.6% in 2021⁸.

The percentage of adolescents that had sex before the age of 14 among those who have ever had sex was 32.8%. There were no significant changes compared to the findings in AHS 2017 of 31.9%. However, the results from this survey showed significant reduction from the prevalence in 2012 which was 50.6%. The percentage of having at least two sexual partners had significantly decreased from 16.6% in 2017 to 10.65% in 2022. However, the percentage of having at least two sexual partners was markedly increased from 1.4% in 2012.

3.10.6 Conclusion

This study found that majority of sexually active adolescents are engaging in risky sexual behaviour, i.e., sex debut before age 14 years, having multiple sexual partners and unprotected sex. While from the UNGASS indicators, adequate knowledge on HIV transmission among adolescents are still low.

3.10.7 Recommendations

1. To strengthen sexual and reproductive health education to be more effective and comprehensive in empowering adolescents with appropriate knowledge, attitude, and skills.
2. To enhance the promotion of various existing sexual and reproductive health modules designed to guide and assist parents / guardians / caregivers to talk about sexuality at home and institutions.
3. To improve on parenting skills and effective communication in sexual and reproductive health related matters.
4. To conduct more studies especially qualitative studies in exploring the determinants of risky sexual behaviours among adolescents.
5. To reactivate the Healthy Programme Without AIDS for Adolescents (PROSTAR) to increase HIV/STI awareness and knowledge.
6. To utilise creative and innovative approaches through social media, peer educator programmes, public-private-NGO (triparty) partnerships and etc.

Table: Sexual Behaviours among adolescents trend in Malaysia

	NHMS 2012	NHMS 2017	NHMS 2022
Ever had sex	8.3%	7.3%	7.6%
Current having sex	-	5.4%	5.7%

3.10.8 References

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6. Family Health Development Division, Ministry of Health Malaysia, 2016.
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Table 3.10.1: Prevalence of ever had sexual intercourse among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	2512	154646	7.6	7.00	8.17
State					
Johor	150	19854	7.6	6.10	9.55
Kedah	170	12076	8.3	5.79	11.81
Kelantan	191	10574	9.5	7.27	12.34
Melaka	164	5520	8.5	6.72	10.78
Negeri Sembilan	185	7675	8.8	6.95	11.16
Pahang	161	7730	7.7	5.98	9.85
Pulau Pinang	169	9144	8.9	6.63	11.88
Perak	136	10576	6.4	4.81	8.39
Perlis	139	1383	7.9	6.61	9.47
Selangor	115	21888	5.6	4.53	7.00
Terengganu	170	7798	8.0	5.75	11.07
Sabah	125	12747	6.8	4.85	9.43
Sarawak	196	17718	9.1	7.10	11.56
WP Kuala Lumpur	168	8710	8.4	6.65	10.60
WP Labuan	147	464	7.1	5.53	9.16
WP Putrajaya	126	788	6.5	5.27	8.11
Sex					
Male	1414	93050	9.2	8.27	10.11
Female	1098	61596	6.0	5.42	6.62
Form					
Form 1	736	48519	11.1	9.74	12.55
Form 2	561	33575	7.9	6.84	9.00
Form 3	391	24542	6.0	5.14	6.88
Form 4	449	24336	6.3	5.46	7.24
Form 5	375	23674	6.2	5.42	7.17
Ethnicity					
Malay	1695	95860	7.4	6.79	8.15
Chinese	317	21939	5.9	5.06	6.83
Indian	213	16335	13.4	10.74	16.58
Bumiputera Sabah	102	6422	5.8	3.93	8.58
Bumiputera Sarawak	117	10240	9.7	6.83	13.60
Others	68	3852	8.5	6.43	11.25

Table 3.10.2: Prevalence of current sexual intercourse in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	1854	115574	5.7	5.21	6.13
State					
Johor	115	15326	5.9	4.81	7.22
Kedah	124	8819	6.1	4.24	8.63
Kelantan	146	8066	7.3	5.32	9.82
Melaka	127	4263	6.6	5.06	8.54
Negeri Sembilan	137	5621	6.5	5.14	8.12
Pahang	121	5835	5.8	4.46	7.54
Pulau Pinang	125	6762	6.6	4.92	8.78
Perak	100	7747	4.7	3.31	6.54
Perlis	99	987	5.7	4.83	6.61
Selangor	90	17152	4.4	3.33	5.83
Terengganu	113	5098	5.2	3.87	7.06
Sabah	90	9210	4.9	3.45	6.93
Sarawak	140	12466	6.4	5.01	8.13
WP Kuala Lumpur	141	7353	7.1	5.70	8.82
WP Labuan	94	292	4.5	3.44	5.85
WP Putrajaya	92	579	4.8	3.69	6.26
Sex					
Male	1012	67787	6.7	5.95	7.46
Female	842	47787	4.7	4.18	5.17
Form					
Form 1	542	36114	8.2	7.19	9.42
Form 2	414	25311	5.9	5.15	6.81
Form 3	293	19481	4.7	3.99	5.59
Form 4	317	17114	4.4	3.72	5.25
Form 5	288	17554	4.6	3.97	5.39
Ethnicity					
Malay	1242	71237	5.5	5.01	6.09
Chinese	251	17595	4.7	4.01	5.54
Indian	157	12079	9.9	7.71	12.63
Bumiputera Sabah	69	4676	4.2	2.89	6.21
Bumiputera Sarawak	81	6861	6.5	4.25	9.81
Others	54	3127	6.9	4.82	9.85

Table 3.10.3: Proportion of sexual practices among those who ever had sex among adolescents in Malaysia, 2022 (N=2512)

Sexual Practices	Unweighted count	Percentage (%)
Percentage of first sex before the age 14 years	842	32.8
Percentage of having at least two sexual partners	265	10.65
Percentage of reported condom use during last sexual intercourse	294	11.79
Percentage of reported using other birth control method during last sexual intercourse	281	11.88

Table 3.10.4: Prevalence of adequate HIV knowledge among adolescents in Malaysia, 2022 (N=33523)

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	482	27744	1.3	1.07	1.67
State					
Johor	26	-	-	-	-
Kedah	19	-	-	-	-
Kelantan	16	752	0.7	0.38	1.21
Melaka	34	-	-	-	-
Negeri Sembilan	31	1241	1.4	0.83	2.42
Pahang	31	1351	1.3	0.86	2.04
Pulau Pinang	53	2675	2.5	1.46	4.42
Perak	24	1717	1.0	0.64	1.67
Perlis	18	165	0.9	0.57	1.28
Selangor	38	-	-	-	-
Terengganu	10	-	-	-	-
Sabah	15	1474	0.7	0.42	1.20
Sarawak	33	-	-	-	-
WP Kuala Lumpur	41	-	-	-	-
WP Labuan	37	113	1.7	1.12	2.70
WP Putrajaya	56	-	-	-	-
Sex					
Male	263	16112	1.6	1.20	2.00
Female	219	11632	1.1	0.86	1.46
Form					
Form 1	35	2070	0.5	0.28	0.75
Form 2	61	3013	0.7	0.45	1.08
Form 3	71	4738	1.1	0.67	1.92
Form 4	133	6502	1.7	1.23	2.23
Form 5	182	11421	3.0	2.39	3.74
Ethnicity					
Malay	261	12122	0.9	0.74	1.16
Chinese	165	12599	3.3	2.42	4.61
Indian	10	-	-	-	-
Bumiputera Sabah	27	1212	1.0	0.64	1.68
Bumiputera Sarawak	7	-	-	-	-
Others	12	-	-	-	-

Table 3.10.5: Percentage of correct responses by item of UNGASS indicator among adolescents in Malaysia, 2022 (N=33523)

Sexual Practices	Unweighted count	Percentage (%)
Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?	4648	13.4
Can a person reduce the risk of getting HIV using a condom every time they have sex?	5487	16.4
Can a healthy-looking person have HIV?	9173	26.4
Can a person get HIV from mosquito bites?	9004	26.9
Can a person get HIV by sharing food with someone who is infected?	6605	19.6

3.11 Tobacco Use

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3.11.1 Introduction

The prevalence of cigarette smoking among Malaysian adolescents has slightly increased from 2012 until 2017¹⁻². Furthermore, there is growing evidence for an increasing trend in the prevalence of electronic cigarette or vape (e-cig/vape) use. According to the findings, 42.2% of adolescents who used e-cig or vapes tried them before the age of 14². Tobacco use, including cigarette and e-cig/vape is predominantly an issue for male adolescents. Malaysia is committed to achieve a smoke-free generation by 2040³. Various anti-tobacco programs for youth have been established, especially at the school level. Continuous surveillance of tobacco use among adolescents is essential for monitoring the progress of tobacco control programs in Malaysia.

3.11.2 Objectives

General objective:

To determine the use of tobacco among adolescents in Malaysia.

Specific objectives:

- To identify the prevalence of the current use of any tobacco product among adolescents in Malaysia
- To identify the prevalence of the current tobacco smoking (current smoking) among adolescents in Malaysia
- To identify the prevalence of the current cigarette smoking among adolescents in Malaysia
- To identify the prevalence of the current e-cig/vape use among adolescents in Malaysia
- To determine the prevalence of current use of various tobacco products among adolescents in Malaysia
- To determine the latest source of cigarettes obtained among adolescents who are cigarette smokers in Malaysia
- To determine the latest source of e-cig/vape obtained among adolescent e-cig/vape users in Malaysia
- To determine the prevalence of exposure to secondhand smoke among adolescents in Malaysia
- To determine the prevalence of exposure to tobacco product advertisement or promotion at the point of sale among adolescent in Malaysia.

3.11.3 Variable Definitions

- Current any tobacco product user:** the use of any of the following tobacco products during the last 30 days: manufactured cigarette, traditional hand-rolled cigarettes, roll-your-own cigarettes with cigarette papers, cigar/cigarillos, tobacco pipes (pipe smoking), shisha/hookah, electronic cigarette/vape, heated tobacco product, snuff, or chewed tobacco.
- Current tobacco smoker or current smoker:** the use of any of the following tobacco products during the last 30 days: manufactured cigarettes, traditional hand-rolled cigarettes, roll-your-own cigarettes with cigarette papers, cigar/cigarillos, tobacco pipes (pipe smoking), or shisha/hookah.
- Current cigarette smoker:** the use of any of the following tobacco products during the last 30 days: manufactured cigarettes, traditional hand-rolled cigarettes, roll-your-own cigarettes with cigarette papers or cigar/cigarillos.
- Current e-cig/vape user:** the use of e-cig/vape during the last 30 days.

3.11.4 Findings

The prevalence of current use of any tobacco products was 18.5% (95%CI: 17.09, 19.92) and it was more than three times higher in males [28.0% (95%CI: 25.89, 30.30)] than females [8.9% (95%CI: 8.23, 9.62)] with Kelantan becoming the highest state with its prevalence [24.5% (95%CI: 18.21, 32.05)], followed by Sarawak [24.3% (95%CI: 19.29, 30.19)] and Sabah [23.0% (95%CI: 18.83, 27.78)] (**Table 3.11.1**). E-cig/vape has the highest prevalence among currently used tobacco products [14.9% (95%CI: 13.66, 16.13)] where it is three times higher compared to manufactured cigarettes [5.4% (95%CI: 4.76, 6.03)], the second-highest tobacco products currently used by adolescents (**Table 3.11.2**). The prevalence of current tobacco smokers was 9.0% (95%CI: 8.18, 9.97) (**Table 3.11.3**), while the current cigarette smoker prevalence was 6.2% (95%CI: 5.53, 7.06) with males having a prevalence more than six times higher than females [10.8% (95%CI: 9.60, 12.23) vs. 1.7% (95%CI: 1.38, 2.00)] (**Table 3.11.4**). Most of the cigarettes were obtained by buying them from static premises (35.7%) or getting them from friends (32.1%) (**Table 3.11.5**).

Regarding to e-cig/vape, males have almost four times higher prevalence compared to females [23.5% (95%CI: 21.61, 25.55) vs. 6.2% (95%CI: 5.65, 6.81)]. States with a higher prevalence of e-cig/vape users among adolescents are Sarawak [20.3% (95%CI: 16.09, 25.30)] and WP Labuan [19.2% (95%CI: 10.51, 32.32)] (**Table 3.11.6**). Most of the e-cig/vape were obtained by getting them from friends (37.5%), or buying them from an e-cig/vape shop (34.6%) (**Table 3.11.7**). About two-fifths of the respondents reported that their parents or guardians have smoked or used tobacco [43.4% (95%CI: 41.82, 44.96)], with half of them reported that their parents or guardians smoked or

used e-cig/vape [21.0% (95%CI: 19.99, 22.07)], and about two-fifths of the adolescents reported they were exposed to secondhand smoke when someone else smoked in their presence within the past 7 days [41.8% (95%CI: 40.50, 43.05)] (**Table 3.11.8**). Almost one-fifth of the adolescents claimed they were exposed to the tobacco advertising and promotion at the point of sales in the past 30 days [19.3% (95%CI: 18.52, 20.16)] (**Table 3.11.9**).

3.11.5 Discussion

The use of any tobacco products among adolescent in Malaysia in 2022 was 18.5%, slightly decline from 20.9% in 2017. However, the prevalence of current use of any tobacco product among adolescents in Malaysia is still high compared to Indonesia (13.6%), Thailand (14.4%), Philippines (15.8%), and Brunei (17.8%)⁴⁻⁷. The prevalence of cigarette smoking was also reduced from 13.8% (2017) to 6.2% in 2022 and was noticeably lower in comparison with Brunei (9.8%), Thailand (11.5%), Indonesia (12.5%) and Philippine (13.3%)⁴⁻⁷. The prevalence of e-cig/vape has increased by 5.1% in five years, from 9.8% in 2017 to 14.9% in 2022. Similar to previous studies in 2012 and 2017, this 2022 study also found that, as compared to females, males contributed to higher prevalence for current use of any tobacco products, current tobacco smoking, current cigarette smoking and e-cig/vape use (28.0%, 14.5%, 10.8% and 23.5% respectively). Sarawak, Sabah and Kelantan were found to dominate the top three prevalence for current use of any tobacco products, current cigarette smoking and current use of e-cig/vape. During the past seven days, 41.8% of adolescents were exposed to someone smoking in their presence where this is the lowest prevalence compared with 52.5% (Philippines)⁶ and Indonesia (82.%)⁴. This study also found that almost 1 out of 5 adolescents (19.3%) reported noticing tobacco product advertisement or promotion at the point of sale in the past 30 days.

3.11.6 Conclusion

The prevalence of smoking among adolescents in Malaysia has been rapidly declined. However, there was a significant increase in the prevalence of e-cig/vape use among adolescents. This indicates a switch in the preference for nicotine delivery among adolescents in Malaysia, in comparison with five years ago. Various factors could have contributed to these recent findings and special concern should also be given to female adolescents as the prevalence of e-cig/vape users has doubled since 2017.

3.11.7 Recommendation

Tobacco use, which includes vaping, is a major harmful determinant for human health. It is worrying that the current anti tobacco programs seem to have not diminished Malaysian adolescents' interest in vaping. A smokefree generation requires participation and dedication from all sectors, including family institutions, education sector, politicians, government and non-governmental

organizations. Moving forward, it is high time for all sectors to come together and agree on banning tobacco use among future Malaysian generations. Strengthening the current law and taking legal action are vital in controlling the accessibility of tobacco products, especially e-cig/vape by adolescents. For those who have developed a nicotine addiction, the visibility of quit smoking services should be increased more aggressively to attract more adolescents to seek help. All screening, prevention, and intervention programs among adolescents must be strengthened and delivered in synergy by all governmental and non-governmental agencies.

Table: Trend of tobacco use among adolescents in Malaysia

	NHMS 2012	NHMS 2017	NHMS 2022
Current cigarette smoker	11.5%	13.8%	6.2%
Current e-cig/vape user	-	9.8%	14.9%
Have tried a cigarette before age of 14 years old	70.8%	68.4%	65.7%
Exposure to people smoking in the adolescent presence for at least one day in the past 7 days	41.6%	42.0%	41.8%
Having parent or guardians who used any form of tobacco	40.2%	42.2%	43.4%

3.11.8 References

1. Institute for Public Health (IPH) 2012. The National Health and Morbidity Survey: Global School-based Student Health Survey 2012. Kuala Lumpur: Ministry of Health Malaysia.
2. Institute for Public Health (IPH) 2017. The National Health and Morbidity Survey (NHMS): Adolescent Health Survey 2017, Malaysia.
3. Tobacco Control Sector and FCTC Secretariat, 2021. National Strategic Plan For The Control of Tobacco & Smoking Products 2021-2030. Ministry of Health Malaysia.
4. Global School-based Student Health Survey (GSHS) Fact Sheets: Indonesia. https://cdn.who.int/media/docs/default-source/ncds/ncd-surveillance/data-reporting/indonesia/gshs/2015-indonesia-gshs-fact-sheet.pdf?sfvrsn=24d1aea5_2&download=true [Accessed October 12, 2022].
5. Global School Based Student Health Survey 2021. Fact sheet. Thailand.
6. Global School Based Student Health Survey 2015. Fact sheet. Philippines.
7. Global School Based Student Health Survey 2019. Fact sheet. Brunei.

Table 3.11.1 : Prevalence of current any tobacco use* among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	5869	381747	18.5	17.09	19.92
State					
Johor	350	46499	17.9	13.02	24.03
Kedah	344	25451	17.5	13.19	22.85
Kelantan	468	27219	24.5	18.21	32.05
Melaka	348	12073	18.7	13.83	24.68
Negeri Sembilan	376	16086	18.5	14.60	23.09
Pahang	400	18742	18.4	13.90	24.07
Pulau Pinang	280	14912	14.3	9.63	20.64
Perak	244	21592	13.0	10.16	16.50
Perlis	347	3382	18.0	13.42	23.71
Selangor	305	61152	15.7	12.66	19.27
Terengganu	424	19724	20.3	14.71	27.25
Sabah	453	46704	23.0	18.83	27.78
Sarawak	509	47450	24.3	19.29	30.19
WP Kuala Lumpur	358	18165	17.4	12.82	23.08
WP Labuan	477	1443	22.2	13.19	34.91
WP Putrajaya	186	1153	9.6	7.96	11.46
Sex					
Male	4295	289604	28.0	25.89	30.30
Female	1574	92143	8.9	8.23	9.62
Form					
Form 1	1014	66556	14.9	13.22	16.67
Form 2	1080	71788	16.6	14.93	18.47
Form 3	1091	76455	18.4	16.55	20.31
Form 4	1364	78587	20.1	17.40	23.11
Form 5	1320	88361	23.2	20.69	25.89
Ethnicity					
Malay	4447	275798	21.2	19.65	22.78
Chinese	335	24864	6.6	5.49	7.98
Indian	209	16005	13.0	10.33	16.27
Bumiputera Sabah	356	23779	20.5	17.22	24.29
Bumiputera Sarawak	324	29211	27.6	23.73	31.89
Others	198	12091	26.4	21.86	31.44

*current any tobacco use - the use of at least one of the following tobacco product during the last 30 days: manufactured cigarette, traditional hand rolled cigarettes, roll-your-own cigarettes with cigarette papers, cigar/cigarillos, tobacco pipe (pipe smoking), shisha/hookah, electronic cigarette/vape, heated tobacco product, snuff or chewed tobacco.

Table 3.11.2 : Prevalence of current tobacco products user among adolescents in Malaysia, 2022, by type of tobacco products

Type of Tobacco Product	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
Electronic cigarette/vape	4640	307109	14.9	13.66	16.13
Manufactured cigarette	1696	110721	5.4	4.76	6.03
Snuff	1396	88333	4.3	3.89	4.69
Shisha/hookah	780	49955	2.4	2.10	2.78
Traditional hand rolled cigarettes	792	47208	2.3	2.00	2.61
Heated tobacco product	632	41112	2.0	1.77	2.23
Roll-your-own cigarettes with cigarette papers	619	40127	1.9	1.70	2.21
Cigar/cigarillos	489	32091	1.6	1.34	1.79
Tobacco pipe (pipe smoking)	476	31470	1.5	1.31	1.76
Chewed tobacco	464	30106	1.5	1.26	1.68

Table 3.11.3 : Prevalence of current tobacco smoker* among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	2854	186817	9.0	8.18	9.97
State					
Johor	169	22168	8.5	6.08	11.81
Kedah	167	12662	8.7	5.70	13.09
Kelantan	240	14224	12.8	8.61	18.59
Melaka	150	5300	8.2	5.64	11.74
Negeri Sembilan	176	7582	8.7	6.42	11.70
Pahang	191	9042	8.9	6.52	12.03
Pulau Pinang	143	7784	7.5	5.13	10.70
Perak	117	10248	6.2	4.28	8.81
Perlis	154	1492	7.9	4.97	12.47
Selangor	115	23544	6.0	4.50	8.05
Terengganu	197	9175	9.4	5.91	14.71
Sabah	239	24815	12.2	9.41	15.73
Sarawak	300	28564	14.6	10.67	19.77
WP Kuala Lumpur	176	9069	8.7	6.31	11.80
WP Labuan	260	-	-	-	-
WP Putrajaya	60	376	3.1	2.47	3.94
Sex					
Male	2239	149934	14.5	13.07	16.09
Female	615	36883	3.6	3.15	4.03
Form					
Form 1	502	33979	7.6	6.54	8.80
Form 2	521	35710	8.3	7.21	9.48
Form 3	494	35316	8.5	7.38	9.72
Form 4	660	36496	9.3	7.81	11.13
Form 5	677	45315	11.9	10.10	13.95
Ethnicity					
Malay	2006	123831	9.5	8.52	10.60
Chinese	219	16424	4.4	3.52	5.44
Indian	128	9493	7.7	5.90	10.04
Bumiputera Sabah	196	12059	10.4	7.89	13.62
Bumiputera Sarawak	196	18364	17.4	13.38	22.24
Others	109	6646	14.5	10.48	19.71

*current tobacco smoker or current smoker - the use of at least one of the following tobacco product during the last 30 days: manufactured cigarette, traditional hand rolled cigarettes, roll-your-own cigarettes with cigarette papers, cigar/cigarillos, tobacco pipe (pipe smoking) or shisha/hookah.

Table 3.11.4: Prevalence of current cigarettes smoker* among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	1956	129102	6.2	5.53	7.06
State					
Johor	126	16716	6.4	4.15	9.87
Kedah	101	7789	5.4	3.55	8.02
Kelantan	164	9743	8.8	5.53	13.64
Melaka	106	3791	5.9	3.78	9.00
Negeri Sembilan	113	4958	5.7	4.14	7.78
Pahang	125	5956	5.9	3.98	8.58
Pulau Pinang	88	4789	4.6	2.89	7.21
Perak	68	6126	3.7	2.35	5.74
Perlis	106	-	-	-	-
Selangor	73	15324	3.9	2.52	6.09
Terengganu	116	5596	5.8	3.49	9.35
Sabah	169	17529	8.6	6.34	11.67
Sarawak	237	23101	11.8	8.47	16.33
WP Kuala Lumpur	113	5821	5.6	3.72	8.24
WP Labuan	216	-	-	-	-
WP Putrajaya	35	219	1.8	1.27	2.60
Sex					
Male	1679	111907	10.8	9.60	12.23
Female	277	17195	1.7	1.38	2.00
Form					
Form 1	278	19833	4.4	3.75	5.24
Form 2	319	21826	5.1	4.26	6.00
Form 3	345	25179	6.0	5.12	7.13
Form 4	480	26253	6.7	5.47	8.23
Form 5	534	36011	9.5	7.83	11.39
Ethnicity					
Malay	1377	85782	6.6	5.74	7.56
Chinese	111	8799	2.3	1.69	3.26
Indian	68	5119	4.2	2.94	5.90
Bumiputera Sabah	156	9299	8.0	5.89	10.87
Bumiputera Sarawak	162	15330	14.5	11.05	18.82
Others	82	4773	10.4	7.19	14.84

*current cigarette smoker - the use of any of the following tobacco products during the last 30 days: manufactured cigarette, traditional hand rolled cigarettes, roll-your-own cigarettes with cigarette papers or cigar/cigarillos.

Table 3.11.5 : Proportion of sources of cigarettes obtained during the last time they smoked in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Percentage (%)
Bought from static premises	743	35.7
Bought from non-static premises	280	12.2
Bought from food establishment	81	3.5
Bought online	78	3.8
Get from friends	662	32.1
Get from family members	106	4.7
Got some other ways	184	8.1

Table 3.11.6 : Prevalence of e-cig/vape use among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	4640	307109	14.9	13.66	16.13
State					
Johor	306	40728	15.7	11.13	21.57
Kedah	242	18316	12.6	9.02	17.33
Kelantan	355	21127	19.0	13.11	26.71
Melaka	272	9583	14.8	10.63	20.26
Negeri Sembilan	292	12535	14.4	10.85	18.85
Pahang	324	15250	15.0	10.72	20.67
Pulau Pinang	218	11591	11.1	7.46	16.21
Perak	195	17473	10.5	8.02	13.69
Perlis	225	2183	11.6	7.50	17.57
Selangor	231	46849	12.0	9.75	14.73
Terengganu	336	15709	16.1	11.47	22.25
Sabah	371	38578	19.0	15.50	23.12
Sarawak	425	39608	20.3	16.09	25.30
WP Kuala Lumpur	307	15588	14.9	10.68	20.39
WP Labuan	419	1244	19.2	10.51	32.32
WP Putrajaya	122	746	6.2	4.92	7.76
Sex					
Male	3582	242849	23.5	21.61	25.55
Female	1058	64260	6.2	5.65	6.81
Form					
Form 1	708	47929	10.7	9.27	12.34
Form 2	806	55129	12.8	11.36	14.35
Form 3	858	63398	15.2	13.59	17.00
Form 4	1179	67708	17.3	14.75	20.24
Form 5	1089	72946	19.1	16.76	21.77
Ethnicity					
Malay	3477	220305	16.9	15.48	18.46
Chinese	254	19531	5.2	4.32	6.27
Indian	170	13165	10.7	8.51	13.38
Bumiputera Sabah	313	20451	17.7	14.99	20.72
Bumiputera Sarawak	267	23827	22.5	19.04	26.45
Others	159	9831	21.4	17.73	25.70

Table 3.11.7 : Proportion of source of e-cig/vape obtained during the last time they vaped in the past 30 days among adolescents in Malaysia, 2022

Source of e-cigarette/vape	Unweighted count	Percentage (%)
Bought from specific e-cig/vape shop	1351	34.6
Bought from pharmacy	100	2.5
Bought from non-static premises	215	5.9
Bought online	238	6.2
Got from friends	1396	37.5
Got from family member	295	7.4
Got some other ways	232	5.9

Table 3.11.8 : Prevalence of exposure to secondhand smoke among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
Having tobacco used/smoked parent or guardian	13642	847724	43.4	41.82	44.96
Having e-cig/vape use parent or guardian	6723	410788	21.0	19.99	22.07
Someone smoking nearby in the presence of respondent in the past 7 days	13394	862801	41.8	40.50	43.05

Table 3.11.9: Prevalence of currently seeing or noticing any tobacco product advertising or promotion at the point of sale in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
Currently see or notice any tobacco product advertising or promotion in the point of sales in the past 30 days	6419	399025	19.3	18.52	20.16

3.12 Violence and Unintentional Injury

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3.12.1 Introduction

Malaysia supports the mandate under resolutions WHA67.15 (2014) and WHA69.5 (2016) on implementing the WHO global plan of action to strengthen the role of the health system within a national multisectoral response to address interpersonal violence in particular against women and girls, and against children. Global school-based health surveys have shown that up to 42% of adolescent boys and 37% of adolescent girls were exposed to bullying¹. Due to lockdowns caused by the ongoing COVID-19 pandemic, adolescents may be subjected to mistreatment and violence when they are forced to remain at home with their aggressors². In addition, cyberbullying is another issue of concern that is closely related to adolescents' mental health and development³.

3.12.2 Objectives

To describe the prevalence of:

- Having been physically attacked at least once in the past 12 months
- Involvement in a physical fight at least once in the past 12 months
- Having had a serious injury at least once in the past 12 months
- Physical abuse at home at least once in the past 30 days
- Verbal abuse at home at least once in the past 30 days
- Having been bullied at least once in the past 30 days
- Involvement in the perpetration of cyberbullying a few times within a year or more

3.12.3 Variable Definitions

- Physical attack:** when one or more persons hurt another person with or without a weapon such as sticks or knives in the past 12 months. It is NOT a physical attack when two individuals or adolescents of about the same strength or power choose to fight each other.
- Physical fight:** when two individuals or adolescents of about the same strength or power choose to fight each other in the past 12 months.
- Unintentional injury:** a serious injury which makes the student miss at least one full day of usual activity (such as school, sports or a job) OR requires treatment by a doctor or medical personnel in the past 12 months

- Physical abuse at home:** when someone is hit so hard that it left a mark OR caused an injury in the past 30 days
- Verbal abuse at home:** when someone has had hurtful or insulting things said to them in the past 30 days
- Bullying:** when a student or group of adolescents say or do bad and unpleasant things to another student, such as teasing a lot in an unpleasant way or leaving out things on purpose in the past 30 days. It is NOT bullying when two adolescents of about the same strength or power argue or fight or when teasing is done in a friendly and fun way.
- Cyberbullying (perpetrator):** bullying or harassment through the internet, cell phones, or other electronic devices (ie, sending insulting messages, posting digitally altered photos, engaging in online fighting, making aggressive comments, sharing someone's embarrassing information, or sending messages that include threats of harm through e-mail, instant messaging, in a chat room, on a website, or sent to a cell phone)

3.12.4 Findings

The prevalence of adolescents who had been physically attacked in the past 12 months was 14.8% (95% CI: 14.12, 15.48) and this was significantly higher in males [16.1% (95% CI: 15.27, 16.91)] compared to females [13.5% (95% CI: 12.72, 14.34)]. (**Table 3.12.1**). Overall, 16.0% (95% CI: 15.28, 16.81) adolescents claimed to have been involved in a physical fight, which was significantly higher in males [18.9% (95% CI: 17.83, 19.95)] compared to females [13.2% (95% CI: 12.46, 14.01)]. (**Table 3.12.1**).

The prevalence of adolescents who had a serious injury in the past 12 months was 20.4% (95% CI: 19.54, 21.30). Male adolescents showed a significantly higher prevalence [23.4% (95% CI: 22.36, 24.57)] compared to females [17.4% (95% CI: 16.51, 18.30)]. (**Table 3.12.2**). However, among those who had been seriously injured, the two most common causes of serious injury were falls [40.0% (95% CI: 38.08, 41.94)] and motor vehicle accidents [20.6% (95% CI: 18.67, 22.67)] (**Table 3.12.3**). The prevalence of adolescents reported had experienced physical abuse at home was 7.5% (95% CI: 6.99, 8.04) which was higher among females at 8.1% (95% CI: 7.49, 8.85) compared to males at 6.8% (95% CI: 6.16, 7.61)]. (**Table 3.12.4**).

Overall, 41.0% (95% CI: 39.62, 42.47) adolescents reported being abused verbally at home and it was significantly higher among females [51.8% (95% CI: 49.84, 53.68)] compared to males [30.2% (95% CI: 28.94, 31.55)]. (**Table 3.12.4**). In terms of bullying, 8.6% (95% CI: 7.99, 9.16) adolescents reported having been bullied. This was higher among males [9.1% (95% CI: 8.41, 9.91)] compared to females [8.0% (95% CI: 7.31, 8.72)]. (**Table 3.12.5**). The most common form of bullying was, 'Making fun of how my body or face looks' [26.7% (95% CI: 24.68, 28.91)] and the least common form of bullying was, 'Making fun of my religion' [3.6% (95% CI: 2.64, 4.77)] (**Table 3.12.6**).

With regards to involvement in cyberbullying activities from the perspective of the perpetrator, 18.3% (95% CI: 17.47, 19.09) of adolescents reported that they had been involved in cyberbullying activities a few times within the past year or more. Male adolescents showed a significantly higher prevalence [22.7% (95% CI: 21.50, 23.86)] compared to females [13.9% (95% CI: 13.15, 14.62)]. (Table 3.12.7). The two most common forms of adolescents involvement in cyberbullying activities were 'Ever made rude comments to anyone online' [11.3% (95% CI: 10.69, 11.94)] and 'Ever spread rumours about someone online' [6.9% (95% CI: 6.46, 7.31)] (Table 3.12.8).

3.12.5 Discussion

The prevalence of Malaysian adolescents who had been physically attacked (14.8%) was lower than in AHS 2017 (25.3%)⁴ and GSHS 2012 (27.8%)⁵. The prevalence was relatively low compared to the prevalence in other South East Asia countries, which an estimated 39.7% of adolescents aged 12-15 years old had been physically attacked⁶. Involvement in physical fights (16.0%) was lower than in AHS 2017 (24.9%) and GSHS 2022 (27.4%). In comparison to our neighbouring countries, the prevalence in Malaysia was lower than in the Philippines (31.0%) and Thailand (25.1%). The prevalence of serious injury among Malaysian adolescents (20.4%) was lower than in previous studies in AHS 2017 (29.9%) and GSHS 2012 (34.9%). This prevalence was lower than Thailand (53.2%) and the Philippines (43.7%). This study prevalence of physically abused at home (7.5%) was lower than AHS 2017 (11.8%) and GSHS 2012 (11.1%). Additionally, the prevalence of verbal abuse at home (41.0%) was almost similar to the previous studies in AHS 2017 (43.2%) and GSHS 2012 (42.7%). The prevalence of bullying in Malaysia had decreased from 16.2% in 2017⁴ to 8.6% in 2022⁵. The prevalence of perpetration of cyberbullying found in this study was 18.3%. The findings were slightly lower compared to Indonesia, 36% and Vietnam, 24%. Overall, the current findings in this module emphasised that all domains showed lower prevalence than in AHS 2017 and GSHS 2022.

3.12.6 Conclusion

Pandemic situations reduced the prevalence of violence significantly through restricted movement, reduced social exposure, and reduced exposure to physical violence. The prevalence of perpetration of cyberbullying found in this survey is consistent with only a few countries in the world. Despite the reduction in all domains, further strategic steps should be taken to improve the outcome of the survey.

3.12.7 Recommendations

In the previous two surveys, recommendations touched on identifying the risk factors that contributed to the problems. The recommendations in this survey are more focused on dealing with abuse, bullying, cyberbullying, and falling. Approaches should be comprehensive with the involvement of relevant agencies.

- i. Promotion of "Bystander Revolution" as part of a bully cessation program, where adolescents are empowered to stop and report a bullying event.
- ii. Awareness programmes for cyberbullying should now focus on the perpetrator, as there are already approaches to manage victims of cyberbully.
- iii. In schools, life skills education and the implementation of programmes to strengthen the communication between adolescents and teachers.
- iv. The overall approach to cyber safety emphasises media watch, written policies and laws to control media contents (violence acts and pornography) and enhancing tele-health and digitalization for accessibility to get help.

Table: Violence and Unintentional Injuries Trend in Malaysia

	NHMS 2012	NHMS 2017	NHMS 2022
Physically attacked	27.8	25.3	14.8
Physical fight	27.4	24.9	16.0
Having had a serious injury	34.9	29.9	20.4
Physical abuse	11.1	11.8	7.5
Verbal abuse at home	42.7	43.2	41.0
Having been bullied	17.9	16.2	8.6

3.12.8 References

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Table 3.12.2 : Prevalence of had serious injury at least once in the past 12 months among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	6565	418626	20.4	19.54	21.30
State					
Johor	373	48925	18.8	15.85	22.21
Kedah	419	28633	19.7	17.60	21.99
Kelantan	384	21009	18.9	16.62	21.42
Melaka	365	12049	18.6	16.48	20.97
Negeri Sembilan	406	16686	19.2	16.43	22.29
Pahang	460	22381	22.2	19.36	25.36
Penang	345	17860	17.3	14.44	20.56
Perak	415	34097	20.6	17.28	24.27
Perlis	364	3552	19.8	17.35	22.48
Selangor	418	82176	21.2	18.65	23.93
Terengganu	425	19118	19.6	17.01	22.58
Sabah	428	42392	22.0	19.25	24.98
Sarawak	475	43003	22.1	19.79	24.53
WP Kuala Lumpur	456	22839	21.9	18.95	25.27
WP Labuan	406	1310	20.2	18.57	21.87
WP Putrajaya	426	2595	21.6	19.98	23.26
Sex					
Male	3520	239576	23.4	22.36	24.57
Female	3045	179050	17.4	16.51	18.30
Form					
Form 1	1541	96222	21.8	20.37	23.28
Form 2	1423	92424	21.6	20.02	23.17
Form 3	1256	84273	20.4	18.90	21.96
Form 4	1240	74912	19.3	17.54	21.24
Form 5	1105	70796	18.6	17.27	20.04
Ethnicity					
Malay	4659	273077	21.1	20.04	22.25
Chinese	801	60984	16.3	14.84	17.92
Indian	312	25955	21.3	17.93	25.13
Bumiputera Sabah	341	23621	20.9	18.31	23.85
Bumiputera Sarawak	274	24238	22.9	19.73	26.50
Others	178	10751	23.8	20.03	28.07

Table 3.12.3 : Major cause of the most serious injury sustained in the past 12 months among those who were injured, adolescents in Malaysia, 2022 (N=6565)

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
In a motor vehicle accident or hit by a motor vehicle	1132	74953	20.6	18.67	22.67
Fell	2279	145513	40.0	38.08	41.94
Something fell or hit him/her	371	23147	6.4	5.59	7.23
Attacked of abused or fighting with someone	192	13055	3.6	2.93	4.38
In a fire or too near a flame or something hot	52	3325	0.9	0.67	1.25
Inhaled or swallowed something bad	55	2755	0.8	0.54	1.06

Table 3.12.4 : Prevalence of being abused at least once in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Physical abuse at home at least once				Verbal abuse at home at least once			
	Unweighted count	Estimated population	Prevalence (%)	95 % CI Lower Upper	Unweighted count	Estimated population	Prevalence (%)	95 % CI Lower Upper
MALAYSIA	2334	153825	7.5	6.99 8.04	13759	841823	41.0	39.62 42.47
State								
Johor	128	16784	6.5	4.77 8.69	765	100886	38.8	33.52 44.37
Kedah	121	8358	5.8	4.04 8.14	825	52706	36.3	32.80 39.97
Kelantan	125	6665	6.0	4.24 8.41	868	42219	38.0	34.81 41.25
Melaka	114	3655	5.7	4.69 6.79	814	26035	40.3	34.43 46.47
Negeri Sembilan	147	5899	6.8	5.20 8.81	876	34073	39.2	35.27 43.32
Pahang	119	5835	5.8	4.87 6.89	838	39251	39.0	33.29 45.06
Pulau Pinang	125	6690	6.5	4.71 8.85	671	34344	33.3	27.77 39.31
Perak	118	8854	5.3	4.24 6.68	795	59702	36.0	32.01 40.12
Perlis	115	1128	6.3	4.59 8.54	724	6862	38.2	34.40 42.18
Selangor	193	36256	9.3	7.97 10.89	961	179365	46.2	41.56 50.82
Terengganu	152	6739	6.9	5.40 8.84	897	38415	39.5	36.29 42.75
Sabah	196	19457	10.1	8.01 12.69	904	88385	46.0	41.50 50.57
Sarawak	193	17274	8.9	7.78 10.07	961	83336	42.7	40.60 44.92
WP Kuala Lumpur	176	8850	8.5	6.70 10.73	968	47385	45.5	39.77 51.30
WP Labuan	194	644	9.9	7.84 12.49	954	3052	47.0	40.71 53.35
WP Putrajaya	118	734	6.1	4.44 8.33	938	5808	48.3	43.09 53.53
Sex								
Male	990	69964	6.8	6.16 7.61	4555	308717	30.2	28.94 31.55
Female	1344	83861	8.1	7.49 8.85	9204	533107	51.8	49.84 53.68
Form								
Form 1	720	44611	10.1	9.19 11.10	2579	153637	34.8	33.11 36.56
Form 2	555	37145	8.7	7.60 9.86	2878	178800	41.7	39.31 44.16
Form 3	436	29872	7.2	6.30 8.25	2790	173499	41.9	39.87 44.01
Form 4	359	24160	6.2	5.19 7.48	2902	173233	44.7	42.26 47.22
Form 5	264	18037	4.7	4.08 5.50	2610	162654	42.8	40.51 45.08
Ethnicity								
Malay	1534	94374	7.3	6.70 7.95	10178	584759	45.2	44.01 46.49
Chinese	299	22531	6.0	5.23 6.94	1311	96923	25.9	22.20 30.08
Indian	148	10977	9.0	7.25 11.10	451	34411	28.2	24.70 31.97
Bumiputera Sabah	158	10718	9.5	7.77 11.62	888	57339	51.0	47.26 54.70
Bumiputera Sarawak	109	9489	9.0	7.45 10.78	605	49803	47.1	44.24 50.06
Others	86	5736	12.7	9.83 16.33	326	18588	41.3	35.31 47.50

Table 3.12.5 : Prevalence of experience in being bullied at least once in the past 30 days among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	2769	175575	8.6	7.99	9.16
State					
Johor	161	21462	8.3	6.24	10.86
Kedah	151	10624	7.3	5.44	9.77
Kelantan	135	7309	6.6	4.99	8.61
Melaka	173	5421	8.4	6.86	10.19
Negeri Sembilan	184	7332	8.4	7.10	10.00
Pahang	188	9245	9.2	7.24	11.59
Penang	139	7456	7.2	5.36	9.66
Perak	173	13638	8.2	6.73	9.99
Perlis	119	1214	6.8	5.42	8.38
Selangor	169	33001	8.5	6.89	10.43
Terengganu	227	10031	10.3	8.52	12.42
Sabah	194	19109	9.9	8.26	11.88
Sarawak	195	17096	8.8	7.28	10.54
WP Kuala Lumpur	211	11067	10.6	9.25	12.18
WP Labuan	197	645	9.9	8.28	11.87
WP Putrajaya	153	926	7.7	7.07	8.38
Sex					
Male	1370	93300	9.1	8.41	9.91
Female	1399	82275	8.0	7.31	8.72
Form					
Form 1	873	53335	12.1	11.01	13.25
Form 2	676	44144	10.3	9.25	11.45
Form 3	494	31306	7.6	6.58	8.68
Form 4	392	24420	6.3	5.41	7.33
Form 5	334	22370	5.9	5.10	6.78
Ethnicity					
Malay	1925	112479	8.7	7.98	9.48
Chinese	308	24561	6.6	5.31	8.11
Indian	167	12805	10.5	9.04	12.13
Bumiputera Sabah	167	11498	10.2	8.92	11.64
Bumiputera Sarawak	117	9536	9.0	7.51	10.84
Others	85	4695	10.4	7.91	13.56

Table 3.12.6 : Most common ways of being bullied at least once in the past 30 days among adolescents in Malaysia, 2022 (N=2769)

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
Hit, kicked, pushed, shoved around or locked indoor	200	12650	8.8	7.27	10.62
Made fun of race, nationality or color	276	16872	11.7	10.15	13.55
Made fun because of religion	66	5108	3.6	2.64	4.77
Made fun with sexual jokes, comments of gestures	343	23035	16.0	14.27	17.97
Left out activities on purpose of completely ignored	307	18635	13.0	11.35	14.78
Made fun of how body or face looks	598	38423	26.7	24.68	28.91
I was bullied in some other way	474	28962	20.2	17.75	22.80

Table 3.12.7 : Prevalence of involvement in cyberbullying activities (perpetrator) a few times within a year or more among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
MALAYSIA	5822	379386	18.3	17.47	19.09
State					
Johor	351	45392	17.4	14.89	20.34
Kedah	332	22951	15.8	13.53	18.34
Kelantan	318	16733	15.0	12.90	17.47
Melaka	336	11219	17.3	14.90	20.07
Negeri Sembilan	327	13247	15.2	13.51	16.95
Pahang	313	15050	14.8	13.06	16.63
Pulau Pinang	311	16124	15.3	12.96	18.08
Perak	364	30227	18.2	15.77	20.91
Perlis	263	2555	13.2	10.97	15.74
Selangor	422	84493	21.5	19.19	24.08
Terengganu	368	16585	17.0	15.59	18.59
Sabah	395	39282	18.9	16.28	21.90
Sarawak	421	37770	19.4	16.34	22.80
WP Kuala Lumpur	472	24086	23.0	19.81	26.49
WP Labuan	437	1376	21.2	17.89	24.89
WP Putrajaya	392	2297	19.0	15.15	23.66
Sex					
Male	3406	235383	22.7	21.50	23.86
Female	2416	144003	13.9	13.15	14.62
Form					
Form 1	1059	69538	15.4	14.08	16.78
Form 2	1215	80396	18.5	17.08	20.07
Form 3	1213	82397	19.7	18.22	21.26
Form 4	1256	75280	19.2	17.70	20.87
Form 5	1079	71774	18.8	17.25	20.48
Ethnicity					
Malay	4095	246142	18.8	17.93	19.75
Chinese	809	65664	17.4	15.21	19.94
Indian	167	14229	11.5	9.38	14.02
Bumiputera Sabah	357	23962	20.5	17.40	23.95
Bumiputera Sarawak	242	21290	20.1	17.37	23.14
Others	152	8099	17.5	14.50	20.87

Table 3.12.8 : Most common ways of involvement in cyberbullying activities (perpetrator) a few times within a year or more among adolescents in Malaysia, 2022 (N=5822)

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
Ever made rude comments to anyone online	3502	231844	11.3	10.69	11.94
Ever sent or posted others' embarrassing photos online	1540	98398	4.8	4.37	5.26
Ever spread rumours about someone online	2220	140934	6.9	6.46	7.31
Ever made threatening comments to hurt someone online	588	41978	2.0	1.81	2.32
Ever asked someone to talk about sex online	586	37377	1.8	1.60	2.08
Ever asked someone to do something sexual online	313	20735	1.0	0.83	1.23

3.13 Adolescents' Perspectives on the Impact of COVID-19 on their families

Contributors: S Maria Awaluddin, Lim Kuang Kuay, Noor Syaqlah Shawaluddin, Tuan Mohd Amin Tuan Lah, Maznieda Mahjom, Noor Ani Ahmad, Saidatul Norbaya Buang, Nik Rubiah Nik Abdul Rashid.

3.13.1 Introduction

The COVID-19 pandemic has impacted adolescents in many aspects, such as their developmental milestones and well-being, even though they are less affected by the COVID-19 disease¹. Adolescents may have many positive and negative perspectives towards the government restrictions on gathering and outdoor activities, which will affect their mental health status². Another important factor is the adolescent's bonding with their family and how they perceive any changes in their family³. Adolescents have good observation skills and they want their voices to be heard⁴. This survey gave adolescents the opportunity to express their perspectives on the impact of COVID-19 on their families.

3.13.2 Objectives

To determine the prevalence of adolescents, reported that:

- Parents lost their jobs due to the COVID-19 pandemic.
- Their family has to cut their expenses due to the COVID-19 pandemic.
- Their family needs to move to a less expensive rental house due to the COVID-19 pandemic
- Their family had to sell properties due to the COVID-19 pandemic
- Family relationships became strained due to the COVID-19 pandemic
- Family had no changes due to the COVID-19 pandemic
- Their family ever been infected with COVID-19

3.13.3 Variable definitions

- parents lost job:** the adolescent answered option "Yes" to the statement My parent/s lost his/her/their job.
- family has to cut their expenses:** the adolescent answered option "Yes" to the statement "Our family has to cut our expenses".
- family has moved to a less expensive rental house:** the adolescent answered option "Yes" to the statement My parent(s) lost his/her/their job
- family had to sell properties:** the adolescent answered option "Yes" to the statement "Our family has to sell properties".
- family relationships became strain:** the adolescent answered option "Yes" to the statement family relationships became strained/not close

- family had no changes:** adolescent who answered "No" for each subquestion of 6(a), 6(b), 6(c), 6(d), 6(e) and 6(f).
- family ever been infected with COVID-19:** the adolescent answered option "Yes" to the question "Has your family ever been infected with COVID-19?"

3.13.4 Findings

The prevalence of adolescents whose parents lost their jobs due to the COVID-19 pandemic was 9.8% (95% CI: 9.08, 10.47). Adolescents also reported that their family had to cut expenses, needed to move to a less expensive rental house, and had to sell properties, 40.9% (95% CI: 39.63, 42.28), 3.4% (95% CI: 3.03, 3.86) and 2.8% (95% CI: 2.56, 3.10), respectively. The prevalence of adolescents reported that family relationships became strained was 7.6% (95% CI: 7.20, 8.01). About 53.3% (95% CI: 51.89, 54.61) of adolescents reported no negative impact on their family during the COVID-19 pandemic. A total of 56.4% (95% CI: 54.82, 57.93) adolescents reported that family members had ever been infected with COVID-19, (**Table 3.13.1**). This study also noted that adolescents from Sabah reported the highest prevalence of parents losing their job (14.3%; 95% CI: 12.07, 16.87), families cutting their expenses (51.5%; 95% CI: 47.06, 55.98) and families selling properties (4.1%; 95% CI: 3.10, 5.42). For the prevalence of needing to move to a less expensive rental house, the highest prevalence was in Sarawak (5.0%; 95% CI: 3.51, 7.16). Adolescents from WP. Kuala Lumpur reported the highest prevalence of strained family relationships (10.5%; 95% CI: 8.55, 12.72) while those in WP. Putrajaya reported the highest prevalence of family members ever being infected with COVID-19 (71.0%; 95% CI: 67.99, 73.84).

3.13.5 Discussion

This study found that nearly half of adolescents reported that their family experienced negative impacts following the COVID-19 pandemic, such as parents losing their jobs. The consequence of a parent losing a job causes an economical instability in that family which leading them to sell properties and move to a less expensive house. A systematic review documented the impact of COVID-19 on the family outcome, such as a parent losing their job and facing a financial problem⁵. The effects of prolonged lockdown and socio-economical instability expose people to mental health problems. This can be observed from the self-reported strained family relationship. A longitudinal study of parenthood prevention programmes in the United States demonstrated worsening family well-being during the pre-pandemic to pandemic phase⁶. Another previous study showed that adolescents reported family conflict, stressed family members, and family being unsupportive during the pandemic⁷.

3.13.6 Conclusion

About half of the adolescents reported that their family had experienced negative consequences following the COVID-19 pandemic, including family members who had ever been infected with COVID-19. Identification of the family who experienced a negative impact due to the COVID-19 pandemic can prevent further mental health problems among the affected population.

3.13.7 Recommendations

Pandemic COVID-19 caused a serious impact on the marginalization of the family unit in terms of economic sustainability and parent-adolescent relationships. Therefore, the recommendations are:

- i. Support the affected adolescents through the community, schools, and relevant government agencies such as the emergency financial support system in reaching the affected family.
- ii. To raise awareness about COVID-19 prevention at home to prevent further disease spread and transmission among family members, and to encourage adolescents and their parents to get vaccinated against COVID-19 for the prevention of severe COVID-19 infection and death particularly among the vulnerable family members.
- iii. Psychological support for the affected adolescents in dealing with family relationship and peers resulting from their predicament during COVID-19.
- iv. Extension of school based psychological support by school counselors post COVID-19 for affected adolescents

3.13.8 References

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Table 3.13.1 : Adolescents' perspectives on the impact of the COVID-19 pandemic on their family: Self-reported findings among adolescents in Malaysia, 2022

Socio-demographic characteristics	Unweighted count	Estimated population	Prevalence (%)	95 % CI	
				Lower	Upper
Parents lost job	3125	202439	9.8	9.08	10.47
Family had to cut their expenses	13360	849703	40.9	39.63	42.28
Family needed to move to less expensive rental house	1089	71011	3.4	3.03	3.86
Family had to sell properties	895	58428	2.8	2.56	3.10
Family relationships became strain	2445	157607	7.6	7.20	8.01
Family had no changes	18281	1105696	53.3	51.89	54.61

APPENDICES

Appendix 1: Members of Steering Committee NHMS 2019-2022

1. Director General of Health
2. Deputy Director General of Health (Research & Technical Support)
3. Deputy Director General of Health (Public Health)
4. Deputy Director General of Health (Medical)
5. Principal Director, Oral Health Programme
6. Principal Director, Pharmaceutical Services
7. Principal Director, Food Safety and Quality Division
8. Director, Medical Development Division
9. Director, Planning Division
10. Director, Health Education Division
11. Director, Disease Control Division
12. Director, Family Health Development Division
13. Director, Nutrition Division
14. Representative of State Directors
15. Director, Institute for Public Health
16. Dean Faculty of Medicine, University of Malaya
17. Dean Faculty of Medicine, National University of Malaysia
18. Principle Investigator, NHMS

Appendix 2: Terms of reference for NHMS 2022 Steering Committee

1. To approve the objectives and scopes of NHMS 2019 - 2022
2. To facilitate inter and intra sectorial collaboration
3. To monitor the implementation of NHMS 2019 - 2022
4. To facilitate the utilization of the NHMS 2019 - 2022 findings

Appendix 3: List of members of Central Coordinating Committee, NHMS 2022

1. Dr. Noor Ani Ahmad, Director of Institute for Public Health
2. Mr. Lim Kuang Kuay, Principal Investigator of Adolescent Health Survey
3. Dr. Muhammad Fadhli Mohd Yusoff, Method And Statistic
4. Ms. Hamizatul Akmal Abd Hamid, Data Manager
5. Dr. Shubash Shander Ganapathy, Central Field Supervisor of Negeri Sembilan, Melaka & Johor
6. Dr. Ahmad Ali Hj Zainuddin, Central Field Supervisor of Kedah, Perlis, Pulau Pinang & Perak
7. Dr. S Maria Awaluddin, Central Field Supervisor of Kelantan, Terengganu & Pahang
8. Dr. Maznieda Mahjom, Central Field Supervisor of Selangor, Kuala Lumpur & Wilayah Putrajaya
9. Dr. Mohd Shaiful Azlan Kassim, Central Field Supervisor of Sabah, Labuan & Sarawak
10. Dr. Tan Lee Ann, Data Processing & Quality
11. Ms Noor Syaqlah Shawaluddin, Logistic Support
12. Ms. Nashrah Adilah Ismail, Project Manager

Appendix 4: Terms of Reference for NHMS 2022 Central Coordinating Team (CCT)

No	Team	Duties	Officers
1	Project Management and Finance	Work closely with recruitment group for employment of temporary Research Assistant Prepare Questionnaires manual, Data collection manual Meeting with research team members, and stakeholders Planning for data collection training Prepare security cards/name tags for research team Arrangement for advanced payment for survey research teams Process claims of Field Supervisors Monitor the expenditure/budget	Mr. Lim Kuang Kuay Dr. S. Maria Awaluddin Ms. Nashrah Adilah Ismail Ms. Nurul Amalina Yusof Mr. Muhammad Safuan Suhaimi Mr. Mohamad Shafiq Abd Basid
2	Method and Data Analysis	<p><u>Before Data Collection</u></p> Calculate the sample size Determine the sample distribution by state Selection of schools samples for each state Selection of class samples from the selected school Prepare unique ID for the selected schools and classes Check module cover and dummy table prepared by key module <p><u>During Data Collection</u></p> Monitoring the quality of data received from data processing team Conducting daily data cleaning Merge the clean dataset Updating the monitoring board for data processing and data quality during CCT meeting Analyst the estimate prevalence for each module during data collection <p><u>After Data Collection</u></p> Check syntax analysis to ensure the analysis meet the module objectives Prepare sampling weight for complex sample analysis Check the table analysis for technical report Prepare final database Prepare data dictionary for reference	Ms. Hamizatul Akmal Abd Hamid Dr. Muhammad Fadhli Mohd Yusoff Ms. Nur Syahirah Ibrahim
3	Data Processing and Quality	Setting up data processing facility Development of directory of variables database Development of quality control (QC) manual for data processing Specify data structure for data processing and data output requirement Responsible for data entry and data cleaning Monitoring and evaluation of QC performance for data processing Maintenance of the scanning machine Daily back up for databases	Dr. Tan Lee Ann Ms. Nurul Haniyah Rosslan Ms. Nur Faraeein Zainal Abidin Ms. Azlin Awatif Mohd Amir Hamzah

No	Team	Duties	Officers
4	Central Field Supervisors	<p><u>Before Data Collection</u></p> <p>Central Field Supervisors are expected to prepare for the initiation of data collection. The preparation tasks include: Conduct meeting with State Education Office, School Principals, Teacher in-charged for the selected schools.</p> <p>To ensure adequate logistic support for the data collection and liaise with the District Education Office, District Health Office and other relevant departments to ensure that:</p> <ul style="list-style-type: none"> • Human resources are available: Field Supervisors, Team leaders, Research Assistants and drivers. • Manage transport: Vehicles • Manage survey instruments and relevant form • Manage lodging for data collectors <p><u>During Data Collection</u></p> <p>Gather feedback from the field on the data collection status and problems related to logistics.</p> <p>Visit the field to help data collectors solve the problem if necessary.</p> <p>To ensure all data collection monitoring forms have been received on time.</p> <p>To ensure bundle from field received by the Operation Centre by hand and by post.</p> <p>Updating the monitoring board for state achievement and attending CCT meeting.</p>	<p>Dr. Ahmad Ali Zainuddin</p> <p>Dr. Maznieda Mahjom</p> <p>Dr. Mohd Shaiful Azlan Kassim</p> <p>Dr. S Maria Awaluddin</p> <p>Dr. Shubash Shander Ganapathy</p>
5	Operation Centre	<p>Arrange date and place of meeting</p> <p>Prepare and circulate briefing materials</p> <p>Prepare and circulate minutes of CCT meeting</p> <p>Prepare letters of appointment for Central Field Supervisors, Field Supervisors and data collectors</p> <p>Prepare advertisement material for recruitment of data collectors</p> <p>Prepare letters of notifications for data collections</p> <p>Prepare manuals for field Supervisors and data collectors</p> <p>Develop a system/format and monitor the distribution of materials/ equipment for field work</p>	<p>Mr. Lim Kuang Kuay</p> <p>Ms. Nashrah Adilah Ismail</p>

Appendix 5: List of Research Team Members, NHMS 2022

Alcohol Use

1. Dr. Rusdi Abd Rashid
2. Dr. Norli Abdul Jabbar
3. Mr. Faizul Akmal Abdul Rahim
4. Ms. Hamizatul Akmal Abd Hamid
5. Ms. Halizah Mat Rifin
6. Ms. Hasimah Ismail
7. Mr. Mohd Hatta Abdul Mutalip
8. Dr. Muhammad Fadhli Mohd Yusoff
9. Dr. Thamil Arasu Saminathan
10. Dr. Tania Gayle Robert
11. Dr. Chong Zhuo Lin

Dietary Behaviours

1. Dr. Ahmad Ali Zainuddin
2. Ms. Ainan Nasrina Ismail
3. Ms. Teh Wai Siew
4. Dr. Lai Wai Kent
5. Dr. Suhaila Abdul Ghaffar
6. Mr. Azli Bin Baharudin@ Shahrudin
7. Mr. Chong Chean Tat
8. Ms. Lalitha Palaniveloo
9. Mr. Muhammad Faiz Mohd Hisham
10. Ms. Munawara Pardi
11. Dr. Norsyamilina Che Abdul Rahim
12. Ms. Nurul Huda Ibrahim
13. Ms. Siti Adibah Ab. Halim
14. Ms. Syafinaz Mohd Sallehuddin

Nutritional Status

1. Ms. Ainan Nasrina Ismail
2. Dr. Ahmad Ali Zainuddin
3. Ms. Lalitha Palaniveloo
4. Mr. Khairul Hasnan Amali
5. Ms. Siti Adibah Ab. Halim

Drug Use

1. Dr. Mohamad Salleh Abdul Ghani
2. Dr. Norli Abdul Jabbar
3. Dr. Rushidi Abd Rashid
4. Dr. Thamil Arasu Saminathan
5. Dr. Maznieda Mahjom
6. Ms. Hasimah Ismail
7. Ms. Hamizatul Akmal Abd Hamid
8. Dr. Muhammad Fadhli Mohd Yusoff
9. Mr. Mohd Haniff Bistari
10. Dr. Halizah Mat Rifin
11. Dr. Tania Gayle Robert

Hygiene (Including Oral Health)

1. Dr. Fazila Haryati
2. Ms. Rafidah Ali
3. Dr. Chan Yee Mang
4. Mr. Mohd Hatta Abdul Mutalip
5. Dr. Nik Adilah Shahein
6. Ms. Norzawati Yoep
7. Dr. Annapurny Venkiteswaran
8. Dr. Nurulasmak Mohamed
9. Dr. Nik Daliana Nik Farid
10. Dr. Saidatul Norbaya Buang

Mental Health Problems

1. Dr. Nurashikin Ibrahim
2. Dr. Nor Rahidah Abdul Rahim
3. Dr. Noor Raihan Khamal
4. Dr. Noor Ani Ahmad,
5. Dr. Sherina Mohd Sidek
6. Ms. Norhafizah Sahril
7. Dr. Chan Yee Mang
8. Dr. Kishwen Kanna Yoga Ratnam
9. Mr. Mohd Ruhaizie Riyadzi
10. Mr. Mohd Haniff Bistari
11. Dr. Muhammad Azri Adam Adnan
12. Dr. Muhamad Khairul Nazrin Khalil
13. Dr. Mohd Shaiful Azlan Kassim
14. Mr. Mohamad Aznuddin Abd Razak
15. Ms. Nur Hidayatun Fadhliah Mohd Nor
16. Mr. Sheikh Shafizal Sheikh Ilman

Physical Activity

1. Dr. Hazizi Abu Saad
2. Dr. Mohd Azahadi Omar
3. Ms. Nur Hidayatun Fadhliah Mohd Nor
4. Dr. Muhammad Solihin Rezali
5. Dr. Affendi Isa
6. Ms. Siti Balkhis Shafie
7. Mr. Lim Kuang Kuay
8. Mr. Mohamad Aznuddin Abd Razak
9. Dr. Mohd Shaiful Azlan Kassim
10. Mr. Azli Baharudin@ Shahrudin
11. Mr. Mohd Hairmansah Mohd Shah
12. Ms. Nor'Ain Ab Wahab
13. Ms. Norliza Shamsuddin
14. Ms. Nazirah Alias
15. Ms. Nurul Haniyah Rosslan

Protective Factors

1. Dr. Nik Rubiah Nik Abdul Rashid
2. Dr. Nik Daliana Nik Farid
3. Dr. Zamzaireen Zainal Abidin
4. Ms. Nazirah Alias
5. Ms. Eida Nurhadzira Muhammad
6. Ms. Filza Noor Asari
7. Mr. Faizul Akmal Abdul Rahim
8. Dr. Tan Lee Ann
9. Dr. S Maria Awaluddin
10. Dr. Khaw Wan-Fei
11. Mr. Mohd Amierul Fikri Mahmud
12. Mr. Mohd Farihan Md Yatim
13. Dr. Nur Hamizah Nasaruddin

Sexual Behaviour that contribute to HIV infection, other STI and unintended pregnancy

1. Dr. Anita Suleiman
2. Dr. Nik Rubiah Nik Abdul Rashid
3. Dr. Chong Zhuo Lin
4. Dr. Fatin Athira Tahir
5. Dr. Mazliza Ramly
6. Dr. Maznieda Mahjom
7. Dr. Nik Adilah Shahein
8. Dr. S Maria Awaluddin
9. Dr. Noor Aliza Lodz
10. Dr. Amal Shamsudin

Tobacco Use

1. Dr. Noraryana Hassan
2. Dr. Norliana Ismail
3. Dr. Muhammad Hairul Nizam Abd Hamid
4. Ms. Ummi Nadiah Yusoff
5. Dr. Nizam Baharom
6. Mr. Lim Kuang Hock
7. Mr. Mohd Ruhaizie Riyadzi
8. Dr. Muhammad Fadhli Mohd Yusoff
8. Dr. Thamil Arasu Saminathan
9. Dr. Tania Galye Robert Lourdes
9. Dr. Halizah Mat Rifin
10. Ms. Hamizatul Akmal Abd Hamid
11. Ms. Hasimah Ismail
12. Dr. Wan Kim Sui
13. Dr. Kishwen Kanna Yoga Ratnam

Violence and Unintentional Injury

1. Ms. Hamizatul Akmal Abd Hamid
2. Dr. Tan Lee Ann
3. Dr. Nor Rahidah Abd Rahim
4. Dr. Noor Raihan Khamal
5. Mr. Mohd Hazrin Hasim@Hashim
6. Ms. Nur Faraeein Zainal Abidin
7. Dr. Noor Suraya Muhamad
8. Dr. Shubash Shander Ganapathy
9. Mr. Muhammad Hanafi Bakri

Adolescents' Perspective on the Impact of COVID-19 to their family

1. Dr. S Maria Awaluddin
2. Mr. Lim Kuang Kuay
3. Ms. Noor Syaqlah Shawaluddin
4. Mr. Tuan Mohd Amin Tuan Lah
5. Dr. Maznieda Mahjom
6. Dr. Noor Ani Ahmad
7. Dr. Saidatul Norbaya Buang
8. Dr. Nik Rubiah Nik Abdul Rashid

Appendix 6: List of Data Collection Teams, NHMS 2022

JOHOR

Field Supervisor

Dr. Lai Wai Kent

Drivers

1. Mr. Muhammad Azraei Alias
2. Mr. Mohammad Nazrin Nazmuding

Research Assistants

1. Ms. Salsabeela Mohd Ariff
2. Ms. Nurfatin Syazwana Ayob
3. Ms. Raja Nur Fatin Ainsyah Raja Omar
4. Ms. Nor Diana Zulkefli
5. Mr. Mohammad Luqman Abdul Aziz
6. Ms. Siti Noorul Nadhirah Zamrus

KEDAH

Field Supervisor

Mrs. Lalitha Palaniveloo

Drivers

1. Mr. Muhammad Shahrul Arieff Shahrudin
2. Mr. Mohamad Najmi Shahrin

Research Assistants

1. Ms. Nur Liyana Rosle
2. Mr. Muhammad Iqbal Mat Rosdi
3. Ms. Siti Nur Adibah Zainudin
4. Ms. Nur Hawanis Hashim
5. Mr. Muhammad Zaquan Mohamad Zamri
6. Ms. Noor Fazira Mhd Sofbri

KELANTAN

Field Supervisor

Dr. Norsyamlina Che Abdul Rahim

Drivers

1. Mr. Muhamad Sahasrizan Samat
2. Mr. Muhamad Izzat Amir Mohd Nasir

Research Assistants

1. Mr. Muhammad 'Izzuddin Che Ismail
2. Mr. Mohamad Azli Che Daud
3. Ms. Wan Anisa Rodzlan Hasani
4. Mr. Muhammad 'Izzuddin Che Ismail
5. Ms. Nurul Farhani Faizol
6. Ms. Siti Hajar Ishak

MELAKA

Field Supervisor

Ms. Eida Nurhadzira Muhammad

Drivers

1. Ms. Siti Zulaikha Yahya
2. Ms. Puteri Nurdhiyana Othman

Research Assistants

1. Ms. Erma Safwan Erison
2. Ms. Nur Aishah Solihin Mohmad Nezan
3. Ms. Siti Normah Abdul Manan
4. Ms. Najihah Md Din
5. Ms. Nur Anis Syafiq Zulkefli
6. Ms. Fairuz Mohd Hashim

NEGERI SEMBILAN

Field Supervisor

Mr. Jayvikramjit Singh Manjit Singh

Drivers

1. Mr. Zakaria Mohammad
2. Mr. Gabriel Jatun

Research Assistants

1. Ms. Norsahira Kamarudin
2. Mr. Mohamad Pauzan Razali
3. Ms. Norhayati Kamarudin
4. Ms. Nurul Syuhada Samsuddin
5. Ms. Siti Aisyah Ibrahim
6. Ms. Izzati Wan Azelee

PAHANG

Field Supervisor

Mr. Sheikh Shafizal Sheikh Ilman

Drivers

1. Mr. Muhammad Ruzaini Ahmad Amri
2. Mr. Ihsan Hashim

Research Assistants

1. Ms. Norhakimah Md Din
2. Mr. Harizamharizal Syafrizal
3. Ms. Norhidayah Abdul Majid
4. Ms. Nur Aina Amira Zailani
5. Ms. Geerthana A/P R. Ravichandiran
6. Mr. Muhamad Firdaus Paizol

PULAU PINANG**Field Supervisor**

Ms. Rafidah Ali

Drivers

1. Muhammad Arif Misra
2. Muhammad Syauqi Adrus

Research Assistants

1. Mrs. Eng Gaik Sim
2. Mr. Neoh Choo Loa
3. Mr. Mohammad Hasrizal Hassan
4. Mr. Tan Jun Xian
5. Mr. Muhammad Amin Sabri
6. Ms. Nurnabilah Afrina Azami

PERAK**Field Supervisor**

Dr. Halizah Mat Riffin

Drivers

1. Mr. Muhammad Raidillah Che Ab. Rahim
2. Mr. Muhamad Syawal Azim Mohd Hisham

Research Assistants

1. Ms. Azieda Abu Bakar
2. Ms. Zawahir Ngah Said
3. Ms. Erma Natasa Norhan
4. Ms. Amni Zulaika Ahmad Azmi
5. Ms. Haszieyatul Affidah Hasan
6. Mr. Amirul Amin Mohamed Tarmizi

PERLIS**Field Supervisor**

Dr. Suhaila Abdul Ghaffar

Drivers

1. Mr. Mohammad Amiruddin Kamarunzaman
2. Mr. Mohd Aizam Zahid

Research Assistants

1. Ms. Ainul Mardhiah Pakhrurrazi
2. Ms. Nur Syuhada Zahid
3. Ms. Fairuz Tasnim Shaffie
4. Ms. Nor Najihah Muslim
5. Ms. Jaizah Jamil
6. Ms. Noor Faralina Izzati Kamarunzaman

SELANGOR**Field Supervisor**

Ms. Nazirah Alias

Drivers

1. Mr. Hezri Izuan Ahmad Termizi
2. Mr. Muhammad Izzat Mat Yusoff

Research Assistants

1. Ms. Nurul Atiqah Mat Yusoff
2. Ms. Rabi'ahtul Assuhadah Mohd Rafa'ai
3. Ms. Fatini Abd Rahman
4. Mr. Muhammad Azrol Mohd Rozi
5. Ms. Noor Aiman Afaf Afiffudden
6. Ms. Nurul Ashikin Nosarodin

TERENGGANU**Field Supervisor**

Dr. Fazila Haryati Ahmad
Mr. Mohd Ruhaizie Riyadzi

Drivers

1. Mr. Muhammad Afif Bani Yami
2. Mr. Muhammad Najmi Alif Muda

Research Assistants

1. Mr. Alif Amirul Ikhwan Hussin
2. Ms. Nur Alis Nadia Azman
3. Ms. Nurul Shafiqah Kusno
4. Ms. Siti Nur Sharmiela Ayob
5. Ms. Madhiyah Che Man
6. Ms. Nur Atiqah Hazwani Mohammed

SABAH**Field Supervisor**

Ms. Nur Faraeein Zainal Abidin

Drivers

1. Mr. Steve Glantdenventur E Benjamin
2. Mr. Javiksen James
3. Mr. Mohd Jazlan Harith Abdul Razak

Research Assistants

1. Mr. Joel Sonny Saimin
2. Ms. Haslinda Hasan
3. Mr. Wan Misly Kindon
4. Ms. Nur Maisarah Maksud
5. Mr. Mohd Hafizan Sani
6. Mr. Mohd Aldy Abdul Razak
7. Ms. Marini Juanah Mantigang
8. Ms. Fyrah James
9. Ms. Lovera Karera Kalakau

SARAWAK

Field Supervisor

Dr. Khaw Wan Hei

Mr. Mohd Hairmanshah Mohd Shah

Drivers

1. Mr. Mohammed Hefalani Mohd Azman
2. Mr. Wilkinson Anak Welling
3. Mr. Afiq Fakrul Ismail

Research Assistants

1. Mr. Daniel Sia Pong Chai
2. Ms. Nurul Afifah Nasir
3. Mr. Mugang Anak Japar
4. Mr. Fabian Anak Mathew
5. Ms. Aelsa Anak Anthony
6. Ms. Christina Sie Fang Yun
7. Ms. Happilyn Anak Li
8. Mr. Mohammad Hasnol Abd Halim
9. Mr. Nazran Bazlan Nawi

KUALA LUMPUR

Field Supervisor

Dr. Nur Hamizah Nasaruddin

Drivers

1. Mr. Muhammad Muazzam Abdul Rahman
2. Mr. Adib Iman Osman

Research Assistants

1. Mr. Amirah Ali
2. Mr. Muhammad Yusri Abdullah
3. Ms. Nur Amirah Alias
4. Mr. Nurulnatasha Jumali
5. Ms. Noor Hasnieza Ahmad
6. Mr. Muhammad Naim Ismail

WP LABUAN

Field Supervisor

Dr. Muhammad Azri Adam Adnan

Driver

1. Mr. Niveno Eldo Sonny Mat

Research Assistants

1. Ms. Mawarsari Said
2. Mr. Jeldy Galoh
3. Ms. Nor Syafina Gorganius
4. Mr. Ignasius Cartilo Taimin
5. Ms. Norfazirah Amlan
6. Ms. Noor Azni Adzmain

WP PUTRAJAYA

Field Supervisor

Ms. Syafinaz Mohd Sallehuddin

Drivers

1. Mr. Mohd Sanusi Aziz
2. Mr. Muhammad Asyraf Jasri

Research Assistants

1. Ms. Aini Farina Mohd Zamri
2. Ms. Nurul Atikah Mohd Rozi
3. Mr. Nurlis Yunarlis
4. Ms. Azizah Nurfauziah Jafri
5. Ms. Rohana Saharudin

Appendix 7: Questionnaire & OMR Form



PENGENALAN

- Kementerian Kesihatan Malaysia dengan kerjasama Kementerian Pendidikan Malaysia sedang menjalankan tinjauan berkaitan kesihatan remaja. Tinjauan ini adalah berkenaan dengan kesihatan anda dan tindakan yang anda yang memberi kesan kepada kesihatan anda.
- Terima kasih kerana bersetuju untuk menyertai tinjauan ini. **Tiada jawapan yang BETUL atau SALAH.** Markah peperiksaan anda tidak akan terjejas sekiranya anda menjawab atau tidak menjawab soalan dalam tinjauan ini. Setiap jawapan yang anda berikan boleh membantu memantapkan program kesihatan untuk remaja. Oleh itu, sila jawab dengan ikhlas dan tepat.
- Segala maklumat individu yang diberikan adalah **SULIT** kerana **TIADA MAKLUMAT PENGENALAN DIRI AKAN DIAMBIL dan TIDAK AKAN DIDEHAHKAN.** Tiada siapa akan tahu jawapan anda. Sila jawab berdasarkan maklumat pada diri anda.

INTRODUCTION

- The Ministry of Health Malaysia, with the cooperation of the Ministry of Education Malaysia is conducting a survey on adolescent health. This survey is about your health and the things that you do that may affect your health.
- Thank you for agreeing to participate in this survey. **There is no CORRECT or WRONG answer.** None of your grades or marks will be affected whether or not you answer the questions. Each answer that you provide will help in the improvisation of health programs for adolescents. Therefore, please answer as honestly and accurately as possible.
- All individual information given will be kept **SECRET** because **NO IDENTIFIERS ARE TAKEN nor WILL BE EXPOSED.** No one will know your answer. Answer the questions based to the best of your knowledge.

NHMS 2022**TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY****PANDUAN MENGISI KERTAS JAWAPAN (SILA BACA DENGAN TELITI)**
GUIDE ON FILLING THE ANSWER'S SHEET (PLEASE READ CAREFULLY)

- a) **JANGAN** tulis **NAMA ANDA** pada buku soalan mahupun kertas jawapan.
***DO NOT** write **YOUR NAME** on the questionnaire or the answer sheet.*
- b) Sila **BACA PERNYATAAN** untuk soalan yang memberikan pernyataan atau definisi sebelum menjawab soalan.
*Please **READ THE STATEMENT** for questions with a preceding statement or definition before answering.*
- c) Sila **HITAMKAN** jawapan anda pada kertas jawapan yang disediakan. Hanya hitamkan **SATU JAWAPAN** bagi setiap soalan. Sila gunakan pensel 2B yang disediakan. Sekiranya telah selesai, ikut arahan pegawai yang melakukan survei di sekolah/kelas anda.
*Please **FILL IN THE CIRCLES** on your answer sheet that matches your answer. There can be **ONLY ONE ANSWER** for each question. Use only the provided 2B pencil. When you are done, follow the instructions of the person conducting the survey in your school/class.*

BERIKUT ADALAH CONTOH BAGAIMANA MENGISI JAWAPAN*Here is an example of how to fill in the circle:*ISIKAN BULATAN
SEPerti INI*FILL IN THE
CIRCLES LIKE THIS*BUKAN
SEPerti INI*NOT LIKE THIS*ATAU
OR**SOALAN TINJAUAN/SURVEY QUESTIONNAIRE**

1. Adakah ikan tinggal dalam air?

*Do fish live in the water?*A. Ya/*Yes*B. Tidak/*No*Kertas jawapan
Answer sheet

1.



TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY

NHMS 2022

BAHAGIAN 1 / PART 1

1. Berapakah umur anda?
How old are you?
 - A. 13 tahun atau ke bawah
13 years old or younger
 - B. 14 tahun
14 years old
 - C. 15 tahun
15 years old
 - D. 16 tahun
16 years old
 - E. 17 tahun
17 years old
 - F. 18 tahun atau ke atas
18 years old or older
2. Apakah jantina anda?
What is your sex?
 - A. Lelaki
Male
 - B. Perempuan
Female
3. Anda belajar di tingkatan/kelas apa?
Which form/class are you in?
 - A. Kelas peralihan
Remove class
 - B. Tingkatan 1
Form 1
 - C. Tingkatan 2
Form 2
 - D. Tingkatan 3
Form 3
 - E. Tingkatan 4
Form 4
 - F. Tingkatan 5
Form 5
4. Apakah etnik anda?
What is your ethnicity?
 - A. Melayu
Malay
 - B. Cina
Chinese
 - C. India
Indian
 - D. Bumiputera Sabah
Bumiputera Sabah
 - E. Bumiputera Sarawak
Bumiputera Sarawak
 - F. Lain-lain
Others
5. Apakah status perkahwinan ibu bapa anda?
What is the marital status of your parents?
 - A. Berkahwin dan tinggal bersama
Married and living together
 - B. Berkahwin tetapi tidak tinggal bersama atas dasar bekerja di tempat lain
Married but living apart due to working in other place
 - C. Berceraai
Divorced
 - D. Balu atau duda (ibu atau ayah telah meninggal)
Widow or widower (my mother or father has died)
 - E. Berpisah (ibu bapa tidak tinggal serumah)
Separated (my parent do not live together)
 - F. Tidak tahu
I do not know

NHMS 2022

TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY

6. Apakah kesan wabak COVID-19 kepada keluarga anda?
What is the impact of COVID-19 pandemic to your family?
- 6(a) Ibu bapa saya hilang pekerjaan
My parent/s lost his/her/their job
- A. Ya
Yes
B. Tidak
No
- 6(b) Keluarga saya terpaksa kurangkan perbelanjaan
Our family has to cut our expenses
- A. Ya
Yes
B. Tidak
No
- 6(c) Keluarga saya terpaksa pindah ke rumah sewa yang lebih murah
Our family has to move to less expensive rental house
- A. Ya
Yes
B. Tidak
No
- 6(d) Keluarga saya terpaksa menjual harta
Our family has to sell properties
- A. Ya
Yes
B. Tidak
No
- 6(e) Hubungan keluarga menjadi renggang/tidak rapat
Family relationships become strained/not close
- A. Ya
Yes
B. Tidak
No
- 6(f) Tiada sebarang perubahan
No changes
- A. Ya
Yes
B. Tidak
No
7. Adakah keluarga anda pernah didapati dijangkiti COVID-19?
Has your family ever been infected with COVID-19?
- A. Ya
Yes
B. Tidak
No
C. Tidak tahu
I do not know

TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY

NHMS 2022

BAHAGIAN 2 / PART 2

Enam soalan seterusnya adalah berkenaan perasaan dan persahabatan anda.
The next six questions ask about your feelings and friendships.

8. Dalam tempoh **12 bulan** yang lepas, berapa kerap anda berasa kesunyian?
*During the past **12 months**, how often have you felt lonely?*
 - A. Tidak pernah
Never
 - B. Jarang-jarang
Rarely
 - C. Kadang-kadang
Sometimes
 - D. Kebanyakan masa
Most of the time
 - E. Setiap masa
Always
9. Dalam tempoh **12 bulan** yang lepas, berapa kerap anda berasa terlalu risau tentang sesuatu perkara sehingga anda tidak dapat tidur di waktu malam?
*During the past **12 months**, how often have you been so worried about something that you could not sleep at night?*
 - A. Tidak pernah
Never
 - B. Jarang-jarang
Rarely
 - C. Kadang-kadang
Sometimes
 - D. Kebanyakan masa
Most of the time
 - E. Setiap masa
Always
10. Dalam tempoh **12 bulan** yang lepas, pernahkah anda terfikir secara serius untuk membunuh diri?
*During the past **12 months**, did you ever seriously consider attempting suicide?*
 - A. Ya
Yes
 - B. Tidak
No
11. Dalam tempoh **12 bulan** yang lepas, adakah anda membuat perancangan untuk membunuh diri?
*During the past **12 months**, did you make a plan about how you would attempt suicide?*
 - A. Ya
Yes
 - B. Tidak
No
12. Dalam tempoh **12 bulan** yang lepas, berapa kali anda telah cuba untuk membunuh diri?
*During the past **12 months**, how many times did you actually attempt suicide?*
 - A. 0 kali/tidak pernah
0 time/never
 - B. 1 kali
1 time
 - C. 2 atau 3 kali
2 or 3 times
 - D. 4 hingga 5 kali
4 to 5 times
 - E. 6 kali atau lebih
6 or more times
13. Berapa ramai kawan rapat yang anda ada?
How many close friends do you have?
 - A. 0 kawan/ tiada kawan
0 friend/ none
 - B. 1 kawan
1 friend
 - C. 2 kawan
2 friends
 - D. 3 atau lebih
3 or more

NHMS 2022**TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY****SILA BACA DENGAN CERMAT:
PLEASE READ THIS CAREFULLY:**

Pihak kami ingin mengetahui sama ada anda mempunyai sebarang masalah perubatan, dan bagaimana tahap kesihatan anda secara umum, sejak **2 minggu lalu**. Sila jawab **semua soalan** dan pilih jawapan yang paling hampir dengan keadaan anda sekarang.

*We would like to know if you have had any medical complaints and how your health has been in general **over the past two weeks**. Please answer **all the questions** simply by choosing the answer which you think most nearly applies to you.*

Sila ambil perhatian yang kami ingin mengetahui masalah terkini dan bukannya masalah di masa lalu. Adalah sangat penting untuk anda menjawab **SEMUA** soalan di bawah.

*Remember that we want to know about the **present and recent** complaints, not those you had in the past. It is important that you try to answer **ALL** the questions.*

Sila hitamkan pilihan jawapan anda dalam **kertas jawapan**/ Please fill in the circle in the **answer sheet**.

14. PERNAHKAH BARU-BARU INI ANDA: HAVE YOU RECENTLY:	Tiada langsung None at all	Beberapa Hari A number of days	Lebih dari 7 hari More than 7 days	Hampir setiap hari Almost every day
14(a) Kurang berminat atau keseronokan dalam melakukan sesuatu perkara <i>Little interest or pleasure in doing things</i>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
14(b) Rasa sedih, tidak gembira atau putus asa <i>Feeling down, depressed or hopeless</i>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
14(c) Masalah untuk tidur atau tidak tidur nyenyak atau tidur berlebihan <i>Trouble falling asleep, or staying asleep, or sleeping too much</i>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
14(d) Rasa letih atau mempunyai sedikit tenaga <i>Feeling tired or having little energy</i>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
14(e) Kurang selera atau makan berlebihan <i>Poor appetite or overeating</i>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D

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14.	PERNAHKAH BARU-BARU INI ANDA: <i>HAVE YOU RECENTLY:</i>	Tiada langsung <i>None at all</i>	Beberapa Hari <i>A number of days</i>	Lebih dari 7 hari <i>More than 7 days</i>	Hampir setiap hari <i>Almost every day</i>
14(f)	Rasa buruk/teruk mengenai diri anda – atau anda seorang yang gagal atau anda telah menyebabkan diri anda atau keluarga anda kecewa <i>Feeling bad about yourself – or that you are a failure, or have let yourself or your family down</i>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
14(g)	Masalah untuk menumpukan perhatian ke atas sesuatu perkara seperti membaca surat khabar atau menonton televisyen <i>Trouble concentrating on things, such as reading the newspaper or watching television</i>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
14(h)	Bergerak atau bercakap terlalu perlahan sehinggakan orang lain perasan? Atau sebaliknya - menjadi sangat resah atau gelisah sehinggakan anda telah bergerak dengan banyak daripada biasa <i>Moving or speaking so slowly that other people could have noticed?</i> <i>Or the opposite – being so fidgety or restless that you have been moving around more than usual</i>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
14(i)	Memikirkan adalah lebih baik saja jika anda mati atau mencederakan diri sendiri dalam beberapa cara <i>Thoughts that you would be better off dead or of hurting yourself in some way</i>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D

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BAHAGIAN 3 / PART 3

15. Dalam tempoh **30 hari** yang lepas, berapa kerap anda kelaparan kerana tidak cukup makanan di rumah?

*During the past **30 days**, how often did you go hungry because there was not enough food in your home?*

- A. Tidak pernah
Never
- B. Jarang-jarang
Rarely
- C. Kadang-kadang
Sometimes
- D. Kebanyakan masa
Most of the time
- E. Sentiasa
Always

Enam soalan yang berikutnya adalah berkenaan apa yang anda mungkin makan atau minum.

The next six questions ask about what you might eat and drink.

16. Dalam tempoh **30 hari** yang lepas, berapa kali dalam sehari anda **biasanya** makan buah?

*During the past **30 days**, how many times per day did you **usually** eat fruit?*

- A. Saya tidak makan buah dalam 30 hari yang lepas
I did not eat fruit during the past 30 days
- B. Kurang dari 1 kali dalam sehari
Less than 1 time per day
- C. 1 kali sehari
1 time per day
- D. 2 kali sehari
2 times per day
- E. 3 kali sehari
3 times per day
- F. 4 kali sehari
4 times per day
- G. 5 kali atau lebih sehari
5 or more times per day

17. Dalam tempoh **30 hari** yang lepas, berapa kali dalam sehari anda **biasanya** makan sayur?

*During the past **30 days**, how many times per day did you **usually** eat vegetables?*

- A. Saya tidak makan sayur dalam 30 hari yang lepas
I did not eat vegetables during the past 30 days
- B. Kurang dari 1 kali dalam sehari
Less than 1 time per day
- C. 1 kali sehari
1 time per day
- D. 2 kali sehari
2 times per day
- E. 3 kali sehari
3 times per day
- F. 4 kali sehari
4 times per day
- G. 5 kali atau lebih sehari
5 or more times per day

18. Dalam tempoh **30 hari** yang lepas, berapa kali dalam sehari anda **biasanya** minum air berkarbonat seperti Coca Cola, Sprite, Pepsi dan lain-lain? (Air berkarbonat diet tidak termasuk dalam kumpulan ini)

*During the past **30 days**, how many times per day did you **usually** drink carbonated soft drinks such as Coca Cola, Sprite, and Pepsi? (Do not include diet soft drinks)*

- A. Saya tidak minum air berkarbonat dalam 30 hari yang lepas
I did not drink carbonated soft drink during the past 30 days
- B. Kurang dari 1 kali dalam sehari
Less than 1 time per day
- C. 1 kali sehari
1 time per day
- D. 2 kali sehari
2 times per day
- E. 3 kali sehari
3 times per day
- F. 4 kali sehari
4 times per day
- G. 5 kali atau lebih sehari
5 or more times per day

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19. Dalam tempoh **30 hari** yang lepas, berapa gelas dalam sehari anda **biasanya** minum air kosong?
*During the past **30 days**, how many glasses per day did you **usually** drink plain water?*
- A. Saya tidak minum air kosong dalam 30 hari yang lepas
I did not drink plain water during the past 30 days
 - B. Kurang dari 6 gelas dalam sehari
Less than 6 glasses per day
 - C. 6 gelas atau lebih dalam sehari
6 glasses or more than 6 glasses per day
20. Dalam tempoh **30 hari** yang lepas, berapa kali dalam sehari anda **biasanya** minum susu atau makan produk tenusu seperti susu, keju, yogurt dan lain-lain? (Ini tidak termasuk susu pekat manis)
*During the past **30 days**, how many times per day did you **usually** drink milk or eat milk products, such as milk, cheese, and yogurt? (This does not include sweetened condensed milk)*
- A. Saya tidak minum susu atau makan produk tenusu dalam 30 hari yang lepas
I did not drink milk or milks products during the past 30 days
 - B. Kurang dari 1 kali dalam sehari
Less than 1 time per day
 - C. 1 kali sehari
1 time per day
 - D. 2 kali sehari
2 times per day
 - E. 3 kali sehari
3 times per day
 - F. 4 kali sehari
4 times per day
 - G. 5 kali atau lebih sehari
5 or more times per day
21. Dalam tempoh **tujuh** hari yang lepas, berapa hari anda makan makanan segera dari restoran makanan segera seperti KFC, McDonald, Pizza Hut, Domino's Pizza dan lain-lain?
*During the past **seven** days, how many days did you eat food from a fast food restaurant, such as KFC, McDonald, Pizza Hut, Domino's Pizza and others?*
- A. 0 hari/tidak pernah
0 day/never
 - B. 1 hari
1 day
 - C. 2 hari
2 days
 - D. 3 hari
3 days
 - E. 4 hari
4 days
 - F. 5 hari
5 days
 - G. 6 hari
6 days
 - H. 7 hari
7 days
- Dua soalan yang berikutnya adalah berkenaan pandangan dan tingkah laku berat anda.
The next two questions were about your body weight perception and weight management behaviors.
22. Apakah pandangan anda tentang berat diri anda?
How do you describe your weight?
- A. Kurang berat badan
Very underweight
 - B. Sedikit kurang berat badan
Slightly underweight
 - C. Berat badan yang sesuai
About the right weight
 - D. Sedikit berlebihan berat badan
Slightly overweight
 - E. Berat badan berlebihan
Very overweight

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23. Apakah yang telah anda lakukan tentang berat anda?

Which of the following are you trying to do about your weight?

- A. Saya tidak berbuat apa-apa tentang berat badan saya

I am not trying to do anything about my weight

- B. Kurangkan berat badan

Lose weight

- C. Tingkatkan berat badan

Gain weight

- D. Kekalkan berat badan

Maintain the same weight

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BAHAGIAN 4 / PART 4

SILA BACA PERNYATAAN DI BAWAH:

Empat soalan seterusnya adalah berkenaan aktiviti fizikal. Aktiviti fizikal adalah apa-apa aktiviti yang meningkatkan kadar denyutan jantung dan menyebabkan kita bernafas dengan kuat. Aktiviti fizikal boleh dilakukan dalam sukan, bermain dengan kawan, atau berjalan ke sekolah. Contoh aktiviti fizikal termasuklah berlari, berjalan pantas, berbasikal, menari dan bola sepak.

PLEASE READ THE STATEMENT BELOW:

The next four questions ask about physical activity. Physical activity is any activity that increases your heart rate and makes you breathe hard. Physical activity can be done in sports, playing with friends, or walking to school. Some examples of physical activity are running, fast walking, biking, dancing, and football.

24. Dalam tempoh **7 hari** yang lepas, berapa hari anda melakukan aktiviti fizikal untuk sekurang- kurangnya 60 minit setiap hari? **JUMLAHKAN MASA ANDA MELAKUKAN APA-APA AKTIVITI FIZIKAL SETIAP HARI.**
*During the past **7 days**, on how many days were you physically active for a total of at least 60 minutes per day? ADD UP ALL THE TIME YOU SPENT IN ANY KIND OF PHYSICAL ACTIVITY EACH DAY*
 - A. 0 hari/tidak pernah
0 day/never
 - B. 1 hari
1 day
 - C. 2 hari
2 days
 - D. 3 hari
3 days
 - E. 4 hari
4 days
 - F. 5 hari
5 days
 - G. 6 hari
6 days
 - H. 7 hari
7 days
25. Dalam tempoh **7 hari** yang lepas, berapa hari anda berjalan kaki atau berbasikal ke sekolah atau balik ke rumah?
*During the past **7 days**, on how many days did you walk or ride a bicycle to or from school?*
 - A. 0 hari/tidak pernah
0 day/never
 - B. 1 hari
1 day
 - C. 2 hari
2 days
 - D. 3 hari
3 days
 - E. 4 hari
4 days
 - F. 5 hari
5 days
 - G. 6 hari
6 days
 - H. 7 hari
7 days

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26. Dalam tempoh **12 bulan** yang lepas, berapa pasukan sukan yang anda sertai? (Sila ambil kira mana-mana pasukan sukan yang dikendalikan oleh sekolah atau kumpulan komuniti anda.)

*During the past **12 months**, on how many sport teams did you play? (Count any teams run by your school or community groups.)*

- A. 0 pasukan/tiada
0 team/none
- B. 1 pasukan
1 team
- C. 2 pasukan
2 teams
- D. 3 pasukan atau lebih
3 teams or more

SILA BACA PERNYATAAN DI BAWAH:

Soalan berikutnya adalah berkenaan masa yang anda habiskan dengan duduk semasa tidak berada di sekolah atau semasa membuat kerja rumah.

PLEASE READ THE STATEMENT BELOW:

The next question asks about the time you spend mostly sitting when you are not in school or doing homework.

27. Biasanya dalam sehari, berapa masa yang anda habiskan untuk duduk sama ada untuk menonton televisyen, bermain permainan komputer, berbual dengan kawan atau apa-apa aktiviti yang memerlukan anda duduk seperti melayari Internet?

How much time do you spend during a typical or usual day sitting and watching television, playing computer games, talking with friends, or doing other sitting activities such as surfing the Internet?

- A. Kurang dari 1 jam sehari
Less than 1 hour per day
- B. 1 hingga 2 jam sehari
1 to 2 hours per day
- C. 3 hingga 4 jam sehari
3 to 4 hours per day
- D. 5 hingga 6 jam sehari
5 to 6 hours per day
- E. 7 hingga 8 jam sehari
7 to 8 hours per day
- F. Lebih dari 8 jam sehari
More than 8 hours per day

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BAHAGIAN 5 / PART 5

SILA BACA PERNYATAAN DI BAWAH:

Lapan soalan seterusnya adalah berkenaan tanggapan kesihatan mulut, amalan pembersihan gigi dan lidah, lawatan pergigian anda dan juga bagaimana gigi anda memberi kesan kepada aktiviti-aktiviti anda.

PLEASE READ THE STATEMENT BELOW:

The next eight questions are about perceived oral health status, the cleaning of your teeth and tongue, your dental visits and also how your teeth affect your activities.

- | | |
|--|---|
| <p>28. Bagaimanakah anda menerangkan kesihatan mulut anda?
<i>How would you describe your oral health?</i></p> <p>A. Sangat baik
<i>Very good</i></p> <p>B. Baik
<i>Good</i></p> <p>C. Sederhana
<i>Average</i></p> <p>D. Buruk
<i>Poor</i></p> <p>E. Sangat buruk
<i>Very poor</i></p> | <p>30. Adakah anda membersihkan lidah?
<i>Do you clean your tongue?</i></p> <p>A. Ya, setiap hari
<i>Yes, every day</i></p> <p>B. Ya, kadang-kadang
<i>Yes, sometimes</i></p> <p>C. Tidak pernah
<i>Never</i></p> |
| <p>29. Dalam tempoh 30 hari yang lepas, berapa kali dalam sehari anda membersih atau memberus gigi anda?
<i>During the past 30 days, how many times per day did you usually clean or brush your teeth?</i></p> <p>A. Saya tidak membersihkan atau memberus gigi dalam 30 hari yang lepas
<i>I did not clean or brush my teeth during the past 30 days</i></p> <p>B. Kurang dari 1 kali dalam sehari <i>Less than 1 time per day</i></p> <p>C. 1 kali sehari
<i>1 time per day</i></p> <p>D. 2 kali sehari
<i>2 times per day</i></p> <p>E. 3 kali sehari
<i>3 times per day</i></p> <p>F. 4 kali atau lebih sehari
<i>4 or more times per day</i></p> | <p>31. Adakah anda menggunakan ubat gigi berflourida?
<i>Do you use toothpaste that contain fluoride?</i></p> <p>A. Ya
<i>Yes</i></p> <p>B. Tidak
<i>No</i></p> <p>C. Tidak tahu
<i>I don't know</i></p> |
| | <p>32. Adakah anda menggunakan flos/benang gigi untuk membersihkan gigi anda?
<i>Do you use dental floss to clean your teeth?</i></p> <p>A. Ya
<i>Yes</i></p> <p>B. Tidak
<i>No</i></p> |

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33. Bilakah kali terakhir anda berjumpa doktor gigi atau jururawat pergigian untuk pemeriksaan, pembersihan gigi atau rawatan pergigian yang lain?

When was the last time you saw a dentist or dental nurse for a check-up, teeth cleaning, or other dental treatment?

- A. Dalam tempoh 12 bulan yang lepas
During the past 12 months
- B. Di antara 12 hingga 24 bulan yang lepas
Between 12 and 24 months ago
- C. Lebih daripada 24 bulan yang lepas
More than 24 months ago
- D. Tidak pernah
Never
- E. Tidak tahu
I do not know

34. Dalam tempoh **12 bulan** yang lepas, adakah sakit gigi menyebabkan anda tidak hadir ke kelas atau tidak menyertai pembelajaran secara dalam talian / Pengajaran dan Pembelajaran di Rumah (PdPR)?

During the past 12 months, did a toothache cause you to miss classes or not participate with online learning (PdPR)?

- A. Ya
Yes
- B. Tidak
No
- C. Tidak berkaitan kerana saya tidak mengalami sakit gigi
Not relevant because I do not have toothache

35. Adakah anda mengelak untuk senyum atau ketawa kerana risau dengan rupa gigi anda?

Do you avoid smiling or laughing because how your teeth look?

- A. Ya
Yes
- B. Tidak
No

Empat soalan seterusnya adalah berkenaan amalan membasuh tangan.

The next four questions are about your hand washing practices.

36. Dalam tempoh **30 hari** yang lepas, berapa kerap anda menggunakan sabun semasa membasuh tangan anda?

During the past 30 days, how often did you use soap when washing your hands?

- A. Tidak pernah
Never
- B. Jarang-jarang
Rarely
- C. Kadang-kadang
Sometimes
- D. Kebanyakan masa
Most of the time
- E. Setiap kali
Always

37. Dalam tempoh **30 hari** yang lepas, berapa kerap anda membasuh tangan sebelum makan?

During the past 30 days, how often did you wash your hands before eating?

- A. Tidak pernah
Never
- B. Jarang-jarang
Rarely
- C. Kadang-kadang
Sometimes
- D. Kebanyakan masa
Most of the time
- E. Setiap kali
Always

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38. Dalam tempoh **30 hari** yang lepas, berapa kerap anda membasuh tangan selepas menggunakan tandas?
*During the past **30 days**, how often did you wash your hands after using the toilet?*
- A. Tidak pernah
Never
 - B. Jarang-jarang
Rarely
 - C. Kadang-kadang
Sometimes
 - D. Kebanyakan masa
Most of the time
 - E. Setiap kali
Always
39. Dalam tempoh **30 hari** yang lepas, bagaimana anda membasuh tangan sebelum makan di sekolah?
*During the past **30 days**, how did you usually wash your hands before eating at school?*
- A. Saya tidak membasuh tangan sebelum makan di sekolah.
I did not wash my hands before eating at school
 - B. Saya membasuh tangan dalam bekas air yang digunakan oleh orang lain.
I wash my hand in a dish of water used by others
 - C. Saya membasuh tangan dalam bekas air yang hanya digunakan oleh saya.
I wash my hand in a dish of water used by me only
 - D. Saya membasuh tangan di bawah air yang mengalir.
I wash my hand under a running water
 - E. Saya membasuh tangan menggunakan cara lain
I wash my hand via some other way

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BAHAGIAN 6 / PART 6

Rokok dan produk tembakau yang lain.

Cigarettes and other cigarette products.

40. Berapakah umur anda ketika pertama kali anda menghisap rokok, walaupun satu atau dua sedutan?
How old were you when you first tried to smoke a cigarette, even one or two puffs?

- A. Saya tidak pernah merokok
I have never smoked cigarettes
B. Saya mula merokok pada
I have started smoking at
 tahun / *years old*

41. Dalam tempoh **30 hari** yang lepas, berapa hari anda merokok?
During the past 30 days, how many days did you smoke cigarettes?

- A. 0 hari/tidak pernah
0 day/never
B. 1 atau 2 hari
1 or 2 days
C. 3 hingga 5 hari
3 to 5 days
D. 6 hingga 9 hari
6 to 9 days
E. 10 hingga 19 hari
10 to 19 days
F. 20 hingga 29 hari
20 to 29 days
G. Kesemua 30 hari
All 30 days

42. Dalam tempoh **30 hari** yang lepas, adakah anda menggunakan mana-mana produk tembakau seperti di bawah?
During the past 30 days, did you use any of the tobacco products listed below?

- 42 (a) Rokok
Manufactured cigarettes

- A. Ya
Yes
B. Tidak
No

- 42 (b) Shisha
Shisha/Hookah

- A. Ya
Yes
B. Tidak
No

- 42 (c) Rokok daun
Traditional hand rolled cigarettes

- A. Ya
Yes
B. Tidak
No

- 42 (d) Rokok gulung sendiri dengan kertas rokok
Roll-your-own cigarettes with cigarette papers

- A. Ya
Yes
B. Tidak
No

- 42 (e) Cerut/cigarillos
Cigar/cigarillos

- A. Ya
Yes
B. Tidak
No

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- 42 (f) Rokok paip
Pipe smoking
- A. Ya
Yes
- B. Tidak
No
- 42 (g) Rokok elektronik/vape
Electronic cigarette (e-cig)/vape
- A. Ya
Yes
- B. Tidak
No
- 42 (h) Mengunyah tembakau
Chewing tobacco
- A. Ya
Yes
- B. Tidak
No
- 42 (i) Menghidu tembakau
Snuff
- A. Ya
Yes
- B. Tidak
No
- 42 (j) Produk tembakau dipanaskan/
Heated tobacco products
- A. Ya
Yes
- B. Tidak
No
43. Pada kali terakhir anda menghisap rokok dalam **30 hari** yang lepas, bagaimana anda mendapatkannya?
The last time you smoked cigarettes during the past 30 days, how did you get them?
- A. Saya tidak merokok dalam 30 hari yang lepas
I did not smoke any cigarettes during the past 30 days
- B. Saya beli rokok daripada kedai/ pasar/ pasaraya/kedai 24 jam/ stesen minyak (premis statik)
I bought a cigarette from a retail shop/ market/supermarket/ 24 hours store / petrol station (static premises)
- C. Saya beli rokok daripada gerai/kiosk/ peniaga tepi jalan/ pasar malam (premis tidak statik)
I bought a cigarette from a roadside stall/kiosk/vendor/night market (non-static premises)
- D. Saya beli rokok daripada kedai makan / premis menjual makanan
I bought a cigarette from a food establishment
- E. Saya beli rokok daripada portal jualan dalam talian atau menerusi media sosial
I bought a cigarette from an online selling portal or through social media
- F. Saya dapatkan daripada kawan
I got a cigarette from a friend
- G. Saya dapatkan ahli keluarga
I got a cigarette from family member
- H. Saya dapatkan rokok dengan cara lain
I got a cigarette some other way
44. Dalam tempoh **12 bulan** yang lepas, adakah anda cuba untuk berhenti merokok?
During the past 12 months, have you ever tried to stop smoking cigarette?
- A. Saya tidak pernah merokok
I have never smoked cigarette
- B. Saya tidak merokok dalam tempoh 12 bulan yang lepas
I did not smoke cigarette during the past 12 months
- C. Ya
Yes
- D. Tidak
No

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45. Dalam tempoh **7 hari** yang lepas, berapa hari anda berada bersama dengan perokok yang sedang merokok?
During the past 7 days, on how many days have people smoked cigarette in your presence?
- A. 0 hari/tidak pernah
0 day/never
 - B. 1 atau 2 hari
1 or 2 days
 - C. 3 atau 4 hari
3 or 4 days
 - D. 5 atau 6 hari
5 or 6 days
 - E. Kesemua 7 hari
All 7 days
46. Siapa antara bapa, ibu atau penjaga anda yang menggunakan produk tembakau termasuk rokok?
Which of your parents or guardians use any form of tobacco including cigarettes?
- A. Kedua-duanya tidak merokok
Neither of them smoking
 - B. Ayah saya atau penjaga lelaki
My father or male guardian
 - C. Ibu saya atau penjaga perempuan
My mother or female guardian
 - D. Kedua-duanya merokok
Both of them smoke
 - E. Saya tidak tahu
I do not know
47. Berapakah umur anda ketika pertama kali anda menggunakan rokok elektronik atau vape?
How old were you when you first tried an electronic cigarette (e-cig) or vape?
- A. Saya tidak pernah menggunakan rokok elektronik atau vape
I have never used electronic cigarettes or vape
 - B. Saya mula menggunakan rokok elektronik atau vape pada
I started using electronic cigarettes or vape at
 tahun /years old
48. Dalam tempoh **30 hari** yang lepas, berapa hari anda menggunakan rokok elektronik atau vape?
During the past 30 days, how many days did you use electronic cigarettes or vape?
- A. 0 hari/tidak pernah
0 day/never
 - B. 1 atau 2 hari
1 or 2 days
 - C. 3 hingga 5 hari
3 to 5 days
 - D. 6 hingga 9 hari
6 to 9 days
 - E. 10 hingga 19 hari
10 to 19 days
 - F. 20 hingga 29 hari
20 to 29 days
 - G. Kesemua 30 hari
All 30 days

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49. Pada kali terakhir anda menggunakan rokok elektronik atau vape dalam **30 hari** yang lepas, bagaimana anda mendapatkannya?
The last time you used electronic cigarettes or vape during the past 30 days, how did you get them?
- A. Saya tidak menggunakan rokok elektronik atau vape dalam 30 hari yang lepas
I did not use any electronic cigarettes or vape during the past 30 days
 - B. Saya beli rokok elektronik atau vape daripada kedai khas menjual peranti dan cecair rokok elektronik atau vape
I bought electronic cigarette or vape from specific shop that sell device or liquid of the electronic cigarette or vape
 - C. Saya beli rokok elektronik atau vape daripada farmasi
I bought electronic cigarette or vape from pharmacy
 - D. Saya beli rokok elektronik atau vape daripada gerai/kiosk/peniaga tepi jalan/pasar malam (premis tidak statik)
I bought electronic cigarette or vape from roadside stall/kiosk/vendor/ night market (non-static premises)
 - E. Saya beli rokok elektronik or vape daripada portal jualan dalam talian atau menerusi media sosial
I bought electronic cigarette or vape from online selling portal or through social media
 - F. Saya dapatkan rokok elektronik atau vape daripada kawan
I got electronic cigarette or vape from friend
 - G. Saya dapatkan rokok elektronik atau vape daripada ahli keluarga
I got electronic cigarette or vape family member
 - H. Saya dapatkan rokok elektronik atau vape dengan cara lain
I got electronic cigarette or vape some other way
50. Dalam tempoh **12 bulan** yang lepas, adakah anda cuba untuk berhenti menggunakan rokok elektronik atau vape?
During the past 12 months, have you ever tried to stop using electronic cigarette or vape?
- A. Saya tidak pernah menggunakan rokok elektronik atau vape
I have never used electronic cigarette or vape
 - B. Saya tidak menggunakan rokok elektronik atau vape dalam tempoh 12 bulan yang lepas
I did not use electronic cigarette or vape during the past 12 months
 - C. Ya
Yes
 - D. Tidak
No
51. Siapa antara bapa, ibu atau penjaga anda yang menggunakan rokok elektronik atau vape?
Which of your parents or guardians use electronic cigarettes or vape?
- A. Kedua-duanya tidak menggunakan rokok elektronik atau vape
Neither of them is not using electronic cigarette or vape
 - B. Ayah saya atau penjaga lelaki
My father or male guardian
 - C. Ibu saya atau penjaga perempuan
My mother or female guardian
 - D. Kedua-duanya menggunakan rokok elektronik atau vape
Both of them using electronic cigarette or vape
 - E. Saya tidak tahu
I do not know
52. Dalam tempoh **30 hari** yang lepas, pernahkah anda melihat atau perasan apa-apa iklan atau promosi produk tembakau (tidak termasuk paparan produk) di kaunter jualan?
During the past 30 days, did you see or notice any tobacco product advertisement or promotion (excluding display of the product) at point of sale?
- A. Saya tidak pergi ke mana-mana kaunter jualan dalam tempoh 30 hari yang lepas
I did not visit any point of sale during the past 30 days
 - B. Ya
Yes
 - C. Tidak
No

NHMS 2022**TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY****BAHAGIAN 7 / PART 7****SILA BACA PERNYATAAN DI BAWAH:**

Enam soalan berikutnya adalah berkenaan meminum minuman beralkohol. Satu "minuman" merujuk kepada satu gelas wain, tuak, lihang, bahar, ijuk atau tody; sebotol bir, segelas kecil arak, langkau, montoku; atau minuman campuran. Minuman beralkohol tidak termasuk beberapa hirup wain untuk tujuan keagamaan.

PLEASE READ THE STATEMENT BELOW

The next six questions ask about drinking alcohol. A "drink" is a glass of wine, tuak, lihar, bahar, ijuk or toddy; a bottle of beer, a small glass of liquor or mixed drinks. Drinking alcohol does not include drinking a few sips of wine for religious purposes.

53. Berapakah umur anda ketika kali pertama anda minum minuman beralkohol?
How old were you when you had your first drink of alcohol?

- A. Saya tidak pernah minum minuman beralkohol
I have never had a drink of alcohol
- B. 7 tahun atau ke bawah
7 years old or younger
- C. 8 atau 9 tahun
8 or 9 years old
- D. 10 atau 11 tahun
10 or 11 years old
- E. 12 atau 13 tahun
12 or 13 years old
- F. 14 atau 15 tahun
14 or 15 years old
- G. 16 tahun atau ke atas
16 years old or older

54. Dalam tempoh **30 hari** yang lepas, berapa hari anda mengambil sekurang-kurangnya satu minuman yang mengandungi alkohol?
During the past 30 days, on how many days did you have at least one drink containing alcohol?

- A. 0 hari/tidak pernah
0 day/never
- B. 1 atau 2 hari
1 or 2 days
- C. 3 hingga 5 hari
3 to 5 days
- D. 6 hingga 9 hari
6 to 9 days
- E. 10 hingga 19 hari
10 to 19 days
- F. 20 hingga 29 hari
20 to 29 days
- G. Kesemua 30 hari
All 30 days

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55. Dalam tempoh **30 hari** yang lepas, pada hari anda minum minuman alkohol; berapa banyak minuman yang anda biasa ambil dalam sehari?

*During the past **30 days**, on the day you drank alcohol; how many drinks did you usually drink per day?*

- A. Saya tidak minum minuman beralkohol dalam 30 hari yang lepas
I did not drink alcohol in the past 30 days
- B. Kurang dari 1 minuman
Less than one drink
- C. 1 minuman
1 drink
- D. 2 minuman
2 drinks
- E. 3 minuman
3 drinks
- F. 4 minuman
4 drinks
- G. 5 minuman atau lebih
5 or more drinks

56. Dalam tempoh **30 hari** yang lepas, biasanya bagaimana anda mendapatkan minuman beralkohol? SILA PILIH SATU JAWAPAN SAHAJA

*During the past **30 days**, how did you usually get the alcohol you drank? SELECT ONLY ONE RESPONSE*

- A. Saya tidak minum minuman beralkohol dalam 30 hari yang lepas
I did not drink alcohol in the past 30 days
- B. Saya beli dari kedai atau gerai
I bought it from a store, shop or from a street vendor
- C. Saya beri duit kepada orang lain untuk membeli
I gave someone else money to buy it for me
- D. Saya dapat daripada kawan
I got it from my friend
- E. Saya dapat daripada keluarga saya
I got it from my family
- F. Saya curi atau ambil tanpa kebenaran
I stole it or got it without permission
- G. Saya perolehi dari cara lain
I got it some other way.

SILA BACA PERNYATAAN DI BAWAH:

Terhuyung-hayang semasa berjalan, tidak mampu bercakap dengan betul, dan muntah adalah tanda seseorang itu terlalu mabuk.

PLEASE READ THE STATEMENT BELOW

Staggering when walking, not being able to speak right, and throwing up are some signs of being really drunk

57. Sepanjang hidup anda berapa kali anda minum minuman beralkohol berlebihan sehingga betul-betul mabuk?

During your life, how many times did you drink so much alcohol that you were really drunk?

- A. 0 kali/tidak pernah
0 times/never
- B. 1 atau 2 kali
1 or 2 times
- C. 3 hingga 9 kali
3 to 9 times
- D. 10 kali atau lebih
10 or more times

58. Sepanjang hidup anda, berapa kali anda mendapat masalah dengan ahli keluarga atau kawan, tidak ke sekolah, atau bertumbuk, akibat daripada minum minuman beralkohol?

During your life, how many times have you got into trouble with your family or friend, missed school, or got into a fight, as a result of drinking alcohol?

- A. 0 kali/tidak pernah
0 times/never
- B. 1 atau 2 kali
1 or 2 times
- C. 3 hingga 9 kali
3 to 9 times
- D. 10 kali atau lebih
10 or more times

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59. Siapa antara bapa, ibu atau penjaga anda yang minum minuman beralkohol?
Which of your parents or guardians drink alcohol?
- A. Kedua-duanya tidak minum minuman beralkohol
Neither of them drinks alcohol
 - B. Ayah saya atau penjaga lelaki
My father or male guardian
 - C. Ibu saya atau penjaga perempuan
My mother or female guardian
 - D. Kedua-duanya minum minuman beralkohol
Both drink alcohol
 - E. Saya tidak tahu
I do not know
60. Berapa ramaikah kawan anda yang minum minuman beralkohol?
How many of your friends drink alcohol?
- A. Tiada
None
 - B. Sebilangan kecil antara mereka
A few
 - C. Sebahagian besar antara mereka
Some
 - D. Hampir semuanya
Most
 - E. Semuanya
All

BAHAGIAN 8 / PART 8

SILA BACA PERNYATAAN DI BAWAH:

Soalan berikutnya adalah berkenaan serangan fizikal. Serangan fizikal berlaku apabila seorang individu atau lebih menyerang individu lain dengan anggota badan atau senjata seperti kayu dan pisau. Serangan fizikal tidak diambil kira jika dua individu atau pelajar yang sama saiz atau kekuatan memilih untuk bergaduh antara satu sama lain

PLEASE READ THE STATEMENT BELOW

The next question asks about physical attacks. A physical attack occurs when one or more people hurt another person with/without a weapon such as sticks and knife. It is not a physical attack when two individuals or students of about the same strength or power choose to fight each other.

61. Dalam tempoh **12 bulan** yang lepas, berapa kali anda telah **diserang secara fizikal?**

*During the past **12 months**, how many times were you **physically attacked**?*

- A. 0 kali/tidak pernah
0 time/never
- B. 1 kali
1 time
- C. 2 atau 3 kali
2 or 3 times
- D. 4 atau 5 kali
4 or 5 times
- E. 6 atau 7 kali
6 or 7 times
- F. 8 atau 9 kali
8 or 9 times
- G. 10 atau 11 kali
10 or 11 times
- H. 12 kali atau lebih
12 or more times

SILA BACA PERNYATAAN DI BAWAH:

Soalan seterusnya adalah berkaitan pergaduhan fizikal. Pergaduhan fizikal berlaku apabila dua individu atau pelajar yang sama saiz atau kekuatan memilih untuk bergaduh antara satu sama lain

PLEASE READ THE STATEMENT BELOW

The next question asks about physical fights. A physical fight occurs when two individuals or students of about the same strength or power choose to fight each other.

62. Dalam tempoh **12 bulan** yang lepas, berapa kali anda terlibat dengan **pergaduhan secara fizikal?**

*During the past **12 months**, how many times were you in **physical fight**?*

- A. 0 kali/tidak pernah
0 time/never
- B. 1 kali
1 time
- C. 2 atau 3 kali
2 or 3 times
- D. 4 atau 5 kali
4 or 5 times
- E. 6 atau 7 kali
6 or 7 times
- F. 8 atau 9 kali
8 or 9 times
- G. 10 atau 11 kali
10 or 11 times
- H. 12 kali atau lebih
12 or more times

NHMS 2022**TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY****SILA BACA PERNYATAAN DI BAWAH:**

Tiga soalan seterusnya adalah berkenaan kecederaan serius yang pernah anda alami. Kecelakaan serius berlaku apabila anda tidak hadir sekurang-kurangnya satu hari aktiviti biasa dilakukan (termasuk sekolah, sukan atau kerja) atau kecederaan yang memerlukan rawatan daripada doktor atau anggota kesihatan.

**PLEASE READ THE STATEMENT
BELOW**

The next three questions ask you about serious injuries that happened to you. An injury is serious when it makes you miss at least one full day of usual activities (such as school, sport or a job) or requires treatment by a doctor or medical personnel

63. Dalam tempoh **12 bulan** yang lepas, berapa kali anda mengalami kecederaan serius?
During the past 12 months, how many times were you seriously injured?
- A. 0 kali/tidak pernah
0 time/never
 - B. 1 kali
1 time
 - C. 2 atau 3 kali
2 or 3 times
 - D. 4 atau 5 kali
4 or 5 times
 - E. 6 atau 7 kali
6 or 7 times
 - F. 8 atau 9 kali
8 or 9 times
 - G. 10 atau 11 kali
10 or 11 times
 - H. 12 kali atau lebih
12 or more times

64. Dalam tempoh **12 bulan** yang lepas, apakah penyebab utama terhadap kecederaan serius yang anda alami?
During the past 12 months, what was the major cause of the most serious injury that happened to you?
- A. Saya tidak mengalami kecederaan dalam 12 bulan yang lepas
I was not seriously injured during the past 12 months
 - B. Saya terlibat dalam kemalangan melibatkan kenderaan
I was in a motor vehicle or hit by a motor cycle
 - C. Saya terjatuh
I fell
 - D. Sesuatu telah jatuh dan terkena saya
Something fell on me or hit me
 - E. Saya telah diserang atau didera atau bergaduh dengan orang lain
I was attacked or abused or was fighting with someone
 - F. Saya terlibat dalam kebakaran atau berada terlalu dekat dengan api atau sesuatu yang panas
I was in the fire or too near a flame or something hot
 - G. Saya sedut atau telan sesuatu yang membahayakan saya
I inhaled or swallowed something bad for me
 - H. Sesuatu yang lain menyebabkan kecederaan saya
Something else caused my injury

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65. Dalam tempoh **12 bulan** yang lepas, apakah kecederaan yang paling serius anda pernah alami?

*During the past **12 months**, what was the most serious injury that happened to you?*

- A. Saya tidak mengalami kecederaan dalam tempoh 12 bulan yang lepas
I was not seriously injured during the past 12 months
- B. Patah tulang atau sendi terkehel/terkeluar
I had a broken bone or a dislocated joint
- C. Luka atau tikaman
I had a cut or stab wound
- D. Gegaran (konkusi) kepala atau kecederaan leher, pengsan atau tidak boleh bernafas
I had a concussion or other head or neck injury, was knocked out, or could not breathe
- E. Kebakaran kulit yang serius
I had a bad burn
- F. Diracun atau mengambil ubat berlebihan
I was poisoned or took too much of a drug
- G. Sesuatu yang lain berlaku kepada saya
Something else happened to me

SILA BACA PERNYATAAN DI BAWAH:

Dua soalan seterusnya adalah berkenaan buli. Buli berlaku apabila seseorang atau sekumpulan pelajar mengata atau melakukan sesuatu yang tidak menyenangkan pelajar lain. Seseorang juga boleh dikatakan dibuli apabila dia diejek secara berterusan atau dipulaukan dengan sengaja. Buli tidak diambil kira apabila dua pelajar yang sama saiz atau kekuatan bergaduh atau ejekan dilakukan secara bergurau atau berseronok bagi kedua-dua pihak.

PLEASE READ THE STATEMENT BELOW

The next two questions ask about bullying. Bullying occurs when a student or a group of students say or do bad and unpleasant things to another student. It is also bullying when a student is teased a lot in an unpleasant way or when a student is left out of things on purpose. It is not bullying when two students of about the same strength or power argue or fight or when teasing is done in a friendly and fun way.

66. Dalam tempoh **30 hari** yang lepas, berapa hari anda telah dibuli?

*During the past **30 days**, on how many days were you bullied?*

- A. 0 hari/tidak pernah
0 day/never
- B. 1 atau 2 hari
1 or 2 days
- C. 3 hingga 5 hari
3 to 5 days
- D. 6 hingga 9 hari
6 to 9 days
- E. 10 hingga 19 hari
10 to 19 days
- F. 20 hingga 29 hari
20 to 29 days
- G. Kesemua 30 hari
All 30 days

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67. Dalam tempoh **30 hari** yang lepas, apakah perlakuan buli paling kerap anda alami?
During the past 30 days, how were you bullied most often?

- A. Saya tidak dibuli dalam 30 hari yang lepas
I was not bullied during the past 30 days
- B. Saya telah dipukul, ditendang, ditolak atau dikunci dalam suatu tempat
I was hit, kicked, punched, shoved around, or locked indoors
- C. Saya telah diejek kerana bangsa, kerakyatan atau warna kulit saya
I was made fun because of my race, nationality, or colour
- D. Saya telah diejek kerana agama saya
I was made fun of because of my religion
- E. Saya telah diejek dengan ejekan seksual seperti secara komen, perilaku atau gurauan
I was made fun of with sexual jokes, comments or gestures
- F. Saya telah dipulau dari apa-apa aktiviti secara sengaja atau langsung tidak dipedulikan
I was left out of activities on purpose or completely ignored
- G. Saya telah diejek kerana bentuk badan atau paras rupa saya
I was made fun of because of how my body or face looks
- H. Saya telah dibuli dengan cara lain
I was bullied in some other way

SILA BACA PERNYATAAN DI BAWAH:

Dua soalan berikutnya adalah berkenaan deraan fizikal dan lisan di rumah. Apabila seseorang memukul atau mengatakan ayat yang menyakitkan hati ia diambil kira sebagai deraan fizikal atau lisan

PLEASE READ THE STATEMENT BELOW

The next two questions ask about physical and verbal abuse at home. When someone hits you or say hurtful or insulting things to you it is called physical abuse or verbal abuse

68. Dalam tempoh **30 hari** yang lepas, adakah anda telah dipukul di rumah sehingga meninggalkan kesan atau mengalami kecederaan?

During the past 30 days, how many times did someone at home hit you so hard that they left a mark or caused an injury?

- A. 0 kali/tidak pernah
0 time/never
- B. 1 kali
1 time
- C. 2 atau 3 kali
2 or 3 times
- D. 4 atau 5 kali
4 or 5 times
- E. 6 atau 7 kali
6 or 7 times
- F. 8 atau 9 kali
8 or 9 times
- G. 10 atau 11 kali
10 or 11 times
- H. 12 kali atau lebih
12 or more times

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69. Dalam tempoh **30 hari** yang lepas, berapa kali seseorang di rumah menyatakan sesuatu yang menyakitkan hati atau menghina anda?

*During the past **30 days**, how many times has someone at home said hurtful or insulting things to you?*

- A. 0 kali/tidak pernah
0 time/never
- B. 1 kali
1 time
- C. 2 atau 3 kali
2 or 3 times
- D. 4 atau 5 kali
4 or 5 times
- E. 6 atau 7 kali
6 or 7 times
- F. 8 atau 9 kali
8 or 9 times
- G. 10 atau 11 kali
10 or 11 times
- H. 12 kali atau lebih
12 or more times

SILA BACA PERNYATAAN DI BAWAH:

Perbuatan buli atau serangan dalam talian semasa melayari internet, menggunakan telefon bimbit atau peranti elektronik yang lain (contohnya; menghantar mesej yang menghina, membuat hantaran gambar yang telah diubah suai, bergaduh dalam talian, komen berbentuk agresif, berkongsi maklumat yang boleh memalukan individu atau menghantar mesej yang berunsur ugutan melalui emel/sistem pesanan ringkas/ruang perbualan/laman sesawang/telefon bimbit)

PLEASE READ THE STATEMENT BELOW

Cyberbullying: bullying or harassment through the internet, cell phones, or other electronic devices (ie, sending insulting messages, posting digitally altered photos, online fighting, aggressive comments, sharing someone's embarrassing information, or sending messages that include threats of harm through e-mail/instant messaging/chat room/website/sent to a cell phone).

70. Berapa kerapkah anda membuat komen yang tidak sopan kepada seseorang di dalam talian?

How often have you ever made rude comments to anyone online?

- A. Tidak pernah
Never
- B. Berlaku setahun yang lalu
Happened a year ago
- C. Beberapa kali setahun
A few times within a year
- D. Beberapa kali sebulan
A few times a month
- E. Beberapa kali seminggu
A few times a week

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71. Berapa kerapkah anda pernah menghantar atau memuat naik gambar yang memalukan orang lain di dalam talian?
How often have you ever sent or posted others' embarrassing photos online?
- A. Tidak pernah
Never
 - B. Berlaku setahun yang lalu
Happened a year ago
 - C. Beberapa kali setahun
A few times within a year
 - D. Beberapa kali sebulan
A few times a month
 - E. Beberapa kali seminggu
A few times a week
72. Berapa kerapkah anda menyebarkan khabar angin mengenai seseorang di dalam talian?
How often have you ever spread rumours about someone online?
- A. Tidak pernah
Never
 - B. Berlaku setahun yang lalu
Happened a year ago
 - C. Beberapa kali setahun
A few times within a year
 - D. Beberapa kali sebulan
A few times a month
 - E. Beberapa kali seminggu
A few times a week
73. Berapa kerapkah anda pernah membuat komen yang berunsurkan ugutan untuk mencederakan seseorang di dalam talian?
How often have you ever made threatening comments to hurt someone online?
- A. Tidak pernah
Never
 - B. Berlaku setahun yang lalu
Happened a year ago
 - C. Beberapa kali setahun
A few times within a year
 - D. Beberapa kali sebulan
A few times a month
 - E. Beberapa kali seminggu
A few times a week
74. Berapa kerapkah anda pernah mengajak seseorang berbual tentang seks di dalam talian walaupun mereka tidak mahu bercakap mengenainya?
How often have you ever asked someone to talk about sex online when they did not want to?
- A. Tidak pernah
Never
 - B. Berlaku setahun yang lalu
Happened a year ago
 - C. Beberapa kali setahun
A few times within a year
 - D. Beberapa kali sebulan
A few times a month
 - E. Beberapa kali seminggu
A few times a week
75. Berapa kerapkah anda pernah menyuruh seseorang untuk melakukan sesuatu yang berunsurkan seksual di dalam talian walaupun mereka tidak mahu melakukannya?
How often have you ever asked someone to do something sexual online when they did not want to?
- A. Tidak pernah
Never
 - B. Berlaku setahun yang lalu
Happened a year ago
 - C. Beberapa kali setahun
A few times within a year
 - D. Beberapa kali sebulan
A few times a month
 - E. Beberapa kali seminggu
A few times a week

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BAHAGIAN 9 / PART 9

Enam soalan seterusnya adalah berkenaan pengalaman anda di sekolah dan di rumah.

The next six questions ask about your experience at school and home.

- | | |
|---|--|
| <p>76. Dalam tempoh 30 hari yang lepas, berapa hari anda tidak hadir ke kelas atau sekolah secara fizikal atau maya tanpa kebenaran?
<i>During the past 30 days, on how many days did you miss classes or school either physically or virtually without permission?</i></p> <ul style="list-style-type: none"> A. 0 hari/tidak pernah
<i>0 day/never</i> B. 1 atau 2 hari
<i>1 or 2 days</i> C. 3 hingga 5 hari
<i>3 to 5 days</i> D. 6 hingga 9 hari
<i>6 to 9 days</i> E. 10 hari atau lebih
<i>10 or more days</i> | <p>78. Dalam tempoh 30 hari yang lepas, berapa kerap ibu bapa atau penjaga anda menyemak kerja sekolah anda?
<i>During the past 30 days, how often did your parents or guardians check to see if your homework was done?</i></p> <ul style="list-style-type: none"> A. Tidak pernah
<i>Never</i> B. Jarang-jarang
<i>Rarely</i> C. Kadang-kadang
<i>Sometimes</i> D. Kebanyakan masa
<i>Most of the time</i> E. Sentiasa
<i>Always</i> |
| <p>77. Dalam tempoh 30 hari yang lepas, berapa kerap rakan sekolah anda bersikap baik hati dan suka membantu secara fizikal atau maya??
<i>During the past 30 days, how often were most of the students in your school kind and helpful either physically or virtually?</i></p> <ul style="list-style-type: none"> A. Tidak pernah
<i>Never</i> B. Jarang-jarang
<i>Rarely</i> C. Kadang-kadang
<i>Sometimes</i> D. Kebanyakan masa
<i>Most of the time</i> E. Sentiasa
<i>Always</i> | <p>79. Dalam tempoh 30 hari yang lepas, berapa kerap ibu bapa atau penjaga anda cuba memahami masalah dan kebimbangan anda?
<i>During the past 30 days, how often did your parents or guardians try to understand your problems and worries?</i></p> <ul style="list-style-type: none"> A. Tidak pernah
<i>Never</i> B. Jarang-jarang
<i>Rarely</i> C. Kadang-kadang
<i>Sometimes</i> D. Kebanyakan masa
<i>Most of the time</i> E. Sentiasa
<i>Always</i> |

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80. Dalam tempoh **30 hari** yang lepas, berapa kerap ibu bapa atau penjaga anda benar-benar tahu apa yang anda lakukan pada masa lapang?
*During the past **30 days** how often did your parents or guardians really know what you were doing with your free time?*
- A. Tidak pernah
Never
 - B. Jarang-jarang
Rarely
 - C. Kadang-kadang
Sometimes
 - D. Kebanyakan masa
Most of the time
 - E. Sentiasa
Always
81. Dalam tempoh **30 hari** yang lepas, berapa kerap ibu bapa atau penjaga anda memeriksa barangan anda tanpa kebenaran?
*During the past **30 days**, how often did your parents or guardians go through your things without your approval?*
- A. Tidak pernah
Never
 - B. Jarang-jarang
Rarely
 - C. Kadang-kadang
Sometimes
 - D. Kebanyakan masa
Most of the time
 - E. Sentiasa
Always

TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY

NHMS 2022

BAHAGIAN 10 / PART 10

SILA BACA PERNYATAAN DI BAWAH:

Lima soalan berikutnya adalah berkenaan hubungan seksual. Hubungan seksual adalah perlakuan seks yang melibatkan memasukkan zakar ke dalam faraj atau dubur.

PLEASE READ THE STATEMENT BELOW:

The next five questions ask about sexual intercourse. Sexual intercourse is defined as sexual acts of penetration of penis into vagina or anus.

82. Pernahkah anda melakukan hubungan seksual/persetubuhan dalam **30 hari** yang lepas?
Have you ever had sexual intercourse in the past 30 days?
- A. Ya
Yes
B. Tidak
No
83. Berapa umur anda ketika kali pertama melakukan hubungan seksual/persetubuhan?
How old were you when you had sexual intercourse for the first time?
- A. Saya tidak pernah melakukan hubungan seksual/ persetubuhan.
I have never had sexual intercourse
B. 11 tahun atau ke bawah
11 years old or younger
C. 12 tahun
12 years old
D. 13 tahun
13 years old
E. 14 tahun
14 years old
F. 15 tahun
15 years old
G. 16 tahun atau ke atas
16 years old or older
84. Sepanjang hidup anda, berapa ramai orang yang berbeza telah anda lakukan hubungan seksual/persetubuhan?
During your life, with how many different people have you had sexual intercourse with?
- A. Saya tidak pernah melakukan hubungan seksual/ persetubuhan
I have never had sexual intercourse
B. 1 orang
1 person
C. 2 orang
2 people
D. 3 orang
3 people
E. 4 orang
4 people
F. 5 orang
5 people
G. 6 orang atau lebih
6 or more people
85. Bolehkah risiko jangkitan HIV dikurangkan dengan menggunakan kondom setiap kali melakukan hubungan seks?
Can a person reduce the risk of getting HIV by using a condom every time they have sex?
- A. Ya
Yes
B. Tidak
No
C. Tidak tahu
I do not know

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86. Bolehkah seseorang yang kelihatan sihat itu ada HIV?
Can a healthy-looking person have HIV?
- A. Ya
Yes
 - B. Tidak
No
 - C. Tidak tahu
I do not know
87. Bolehkah seseorang dijangkiti HIV melalui gigitan nyamuk?
Can a person get HIV from mosquito bites?
- A. Ya
Yes
 - B. Tidak
No
 - C. Tidak tahu
I do not know
88. Bolehkah seseorang mendapat HIV jika berkongsi makanan dengan orang yang dijangkiti HIV?
Can a person get HIV by sharing food with someone who is infected?
- A. Ya
Yes
 - B. Tidak
No
 - C. Tidak tahu
I do not know
89. Kali terakhir anda melakukan hubungan seksual/persetubuhan; adakah anda atau pasangan anda menggunakan kondom?
The last time you had sexual intercourse; did you or your partner use a condom?
- A. Saya tidak pernah melakukan hubungan seksual/persetubuhan
I have never had sexual intercourse
 - B. Ya
Yes
 - C. Tidak
No
 - D. Tidak tahu
I do not know
90. Kali terakhir anda melakukan hubungan seksual/persetubuhan, adakah anda atau pasangan anda menggunakan kaedah pencegahan kehamilan lain seperti teknik pancutan luar, masa selamat, pil pencegah kehamilan, ataupun kaedah lain?
The last time you had sexual intercourse, did you or your partner use any other method of birth control, such as withdrawal, safe time, birth control pills, or any other method to prevent pregnancy?
- A. Saya tidak pernah melakukan hubungan seksual/persetubuhan
I have never had sexual intercourse
 - B. Ya
Yes
 - C. Tidak
No
 - D. Tidak tahu
I do not know
91. Bolehkah risiko jangkitan HIV dikurangkan dengan melakukan hubungan seks bersama pasangan yang tidak dijangkiti dan tidak mempunyai pasangan lain.
Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?
- A. Ya
Yes
 - B. Tidak
No
 - C. Tidak tahu
I do not know

**TINJAUAN KESIHATAN REMAJA
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BAHAGIAN 11 / PART 11

SILA BACA PERNYATAAN DI BAWAH:

13 soalan berikutnya adalah berkenaan penggunaan dadah termasuk opiat, perangsang jenis amfetamin, ganja, pil psikotropik, kokain, inhalan dan lain-lain dadah (depresan, halucinogen). Ini tidak termasuk ubat-ubatan preskripsi.

PLEASE READ THE STATEMENT BELOW:

The next 13 questions ask about drug use. This includes opiate, amphetamine type stimulants, marijuana, psychotropic pill, cocaine, inhalant and others (depressant, hallucinogen). This does not include prescribed medicine.

- | | |
|---|--|
| <p>92. Berapakah umur anda ketika pertama kali anda menggunakan dadah?
<i>How old were you when you first used drug?</i></p> <ul style="list-style-type: none"> A. Saya tidak pernah menggunakan dadah
<i>I have never used drugs</i> B. 7 tahun atau ke bawah
<i>7 years old or younger</i> C. 8 atau 9 tahun
<i>8 or 9 years old</i> D. 10 atau 11 tahun
<i>10 or 11 years old</i> E. 12 atau 13 tahun
<i>12 or 13 years old</i> F. 14 atau 15 tahun
<i>14 or 15 years old</i> G. 16 tahun atau ke atas
<i>16 years old or older</i> | <p>94. Dalam tempoh 30 hari yang lepas, berapa kali anda menggunakan dadah?
<i>During the past 30 days, how many times have you used drugs?</i></p> <ul style="list-style-type: none"> A. 0 kali/Tidak Pernah
<i>0 time/Never</i> B. 1 atau 2 kali
<i>1 or 2 times</i> C. 3 hingga 9 kali
<i>3 to 9 times</i> D. 10 hingga 19 kali
<i>10 to 19 times</i> E. 20 kali atau lebih
<i>20 or more times</i> |
|---|--|
-
- | | |
|---|--|
| <p>93. Sepanjang hidup anda, berapa kali anda telah menggunakan dadah?
<i>During your life, how many times have you used drugs?</i></p> <ul style="list-style-type: none"> A. 0 kali/Tidak Pernah
<i>0 time/Never</i> B. 1 atau 2 kali
<i>1 or 2 times</i> C. 3 hingga 9 kali
<i>3 to 9 times</i> D. 10 hingga 19 kali
<i>10 to 19 times</i> E. 20 kali atau lebih
<i>20 or more times</i> | |
|---|--|

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TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY

95. Dalam tempoh **30 hari** yang lepas, bagaimana biasanya anda mendapatkan dadah yang anda gunakan? SILA PILIH SATU JAWAPAN SAHAJA
During the past 30 days, how did you usually get the drugs used? SELECT ONLY ONE RESPONSE
- A. Saya tidak menggunakan dadah dalam 30 hari yang lepas
I did not use drug during the past 30 days
 - B. Saya beli dari seseorang
I bought them from someone
 - C. Saya beri duit kepada seseorang untuk membelikan dadah untuk saya
I give someone else money to buy it for me
 - D. Saya mencuri dadah berkenaan atau mengambilnya tanpa kebenaran
I stole it or got it without permission
 - E. Saya mendapatkannya daripada kawan saya
I got it from my friend
 - F. Saya mendapatkannya daripada keluarga saya
I got it from my family
 - G. Saya memperolehi dari cara lain
I got it some other ways
96. Sepanjang hidup anda, berapa kali anda telah menggunakan ganja?
During your life, how many times have you used marijuana?
- A. 0 kali/Tidak Pernah
0 time/Never
 - B. 1 atau 2 kali
1 or 2 times
 - C. 3 hingga 9 kali
3 to 9 times
 - D. 10 hingga 19 kali
10 to 19 times
 - E. 20 kali atau lebih
20 or more times
97. Dalam tempoh **30 hari** yang lepas, berapa kali anda menggunakan ganja?
During the past 30 days, how many times have you used marijuana?
- A. 0 kali/Tidak Pernah
0 time/Never
 - B. 1 atau 2 kali
1 or 2 times
 - C. 3 hingga 9 kali
3 to 9 times
 - D. 10 hingga 19 kali
10 to 19 times
 - E. 20 kali atau lebih
20 or more times
98. Sepanjang hidup anda, berapa kali anda telah menggunakan amfetamin atau metamfetamin (meth, syabu, ais, pil kuda, pil yaba, pil bom, ekstasi)?
During your life, how many times have you used amphetamines or methamphetamines (meth, syabu, ice, yaba pills, bom pills, ecstasy)?
- A. 0 kali/Tidak Pernah
0 time/Never
 - B. 1 atau 2 kali
1 or 2 times
 - C. 3 hingga 9 kali
3 to 9 times
 - D. 10 hingga 19 kali
10 to 19 times
 - E. 20 kali atau lebih
20 or more times

TINJAUAN KESIHATAN REMAJA
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99. Dalam tempoh **30 hari** yang lepas, berapa kali anda telah menggunakan amfetamin atau metamfetamin (meth, syabu, ais, pil kuda, pil yaba, pil bom, ekstasi)?
*During the past **30 days**, how many times have you used amphetamines or methamphetamines (meth, syabu, ice, yaba pills, bom pills, ecstasy)?*
- A. 0 kali/Tidak Pernah
0 time/Never
 - B. 1 atau 2 kali
1 or 2 times
 - C. 3 hingga 9 kali
3 to 9 times
 - D. 10 hingga 19 kali
10 to 19 times
 - E. 20 kali atau lebih
20 or more times
100. Sepanjang hidup anda, berapa kali anda telah menyedut/menghisap pelarut atau inhalan (gam, cat)?
During your life, how many times have you sniff solvents or inhalants (glue, paint)?
- A. 0 kali/Tidak Pernah
0 time/Never
 - B. 1 atau 2 kali
1 or 2 times
 - C. 3 hingga 9 kali
3 to 9 times
 - D. 10 hingga 19 kali
10 to 19 times
 - E. 20 kali atau lebih
20 or more times
101. Dalam tempoh **30 hari** yang lepas, berapa kali anda telah menyedut/menghisap pelarut atau inhalan (gam, cat)?
*During the past **30 days**, how many times have you sniffed solvents or inhalants (glue, paint, nitrose oxide)?*
- A. 0 kali/Tidak Pernah
0 time/Never
 - B. 1 atau 2 kali
1 or 2 times
 - C. 3 hingga 9 kali
3 to 9 times
 - D. 10 hingga 19 kali
10 to 19 times
 - E. 20 kali atau lebih
20 or more times
102. Sepanjang hidup anda, berapa kali anda telah menggunakan ketum?
During your life, how many times have you used kratom?
- A. 0 kali/Tidak Pernah
0 time/Never
 - B. 1 atau 2 kali
1 or 2 times
 - C. 3 hingga 9 kali
3 to 9 times
 - D. 10 hingga 19 kali
10 to 19 times
 - E. 20 kali atau lebih
20 or more times
103. Dalam tempoh **30 hari** yang lepas, berapa kali anda telah menggunakan ketum?
*During the past **30 days**, how many times have you used used kratom?*
- A. 0 kali/Tidak Pernah
0 time/Never
 - B. 1 atau 2 kali
1 or 2 times
 - C. 3 hingga 9 kali
3 to 9 times
 - D. 10 hingga 19 kali
10 to 19 times
 - E. 20 kali atau lebih
20 or more times

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TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY

104. Dalam tempoh **30 hari** yang lepas, apakah jenis atau kategori dadah yang paling kerap anda gunakan?

During the past 30 days, what type or category of drug that you frequently used?

- A. Saya tidak pernah menggunakan dadah
I have never used drugs
- B. Opiat (heroin, morfin, kodein)
Opiate (heroin, morphine, codeine)
- C. Amphetamine Type Stimulants (ATS):
Kristal metamfetamin (syabu, ais), Tablet metamfetamin (pil kuda, yaba, yama, pil bom), Ekstasi atau Amfetamin
Amphetamine Type Stimulants (ATS): Methamphetamine crystalline (syabu, ice), Methamphetamine tablet ("kuda" pill, yaba pills, yama, "bom" pills), Ecstasy or Amphetamine
- D. Ganja (hasyis)
Marijuana (hashihs)
- E. Inhalan (gam)
Inhalant (glue)
- F. Ketum
Kratom
- G. Lain – lain (depresan, halucinogen, disosiatif, benzodiazepine, eramin 5, APO5, dormicum, Kokain)
Others (depressant, hallucinogen, dissociative, benzodiazepine, eramin 5, APO5, dormicum, cocaine)

TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY

NHMS 2022

BAHAGIAN 12 / PART 12

Pengukuran berat badan dan tinggi
Body weight and height measurement

105. Berat badan/*body weight*

- A. Pengukuran 1
Measurement 1 kg *kg*
- B. Pengukuran 2
Measurement 2 kg *kg*

106. Tinggi/*height*

- A. Pengukuran 1
Measurement 1 cm *cm*
- B. Pengukuran 2
Measurement 2 cm *cm*

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TINJAUAN KESIHATAN REMAJA
ADOLESCENT HEALTH SURVEY

SOALAN TAMAT

END



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Tinjauan Kesihatan Remaja 2022

ID PELAJAR			
NEGERI	KOD SEKOLAH	KELAS	PELAJAR
0 0	0 0	0 0	0 0
1 1	1 1	1 1	1 1
2 2	2 2	2 2	2 2
3 3	3 3	3 3	3 3
4 4	4 4	4 4	4 4
5 5	5 5	5 5	5 5
6 6	6 6	6 6	6 6
7 7	7 7	7 7	7 7
8 8	8 8	8 8	8 8
9 9	9 9	9 9	9 9

B5

B28 A B C D E

B29 A B C D E F

B30 A B C

B31 A B C

B32 A B

B33 A B C D E

B34 A B C

B35 A B

B36 A B C D E

B37 A B C D E

B38 A B C D E

B39 A B C D E

B7

B53 A B C D E F G

B54 A B C D E F G

B55 A B C D E F G

B56 A B C D E F G

B57 A B C D

B58 A B C D

B59 A B C D E

B60 A B C D E

B10

B82 A B

B83 A B C D E F G

B84 A B C D E F G

B85 A B C

B86 A B C

B87 A B C

B88 A B C

B89 A B C D

B90 A B C D

B91 A B C

B1

B1 A B C D E F

B2 A B

B3 A B C D E F

B4 A B C D E F

B5 A B C D E F

B6 A B C D E F

B7 A B C

B6

B40 A B tahun

B41 A B C D E F G

B42(a) A B

B42(b) A B

B42(c) A B

B42(d) A B

B42(e) A B

B42(f) A B

B42(g) A B

B42(h) A B

B42(i) A B

B42(j) A B

B43 A B C D E F G H

B44 A B C D

B45 A B C D E

B46 A B C D E

B47 A B tahun

B48 A B C D E F G

B49 A B C D E F G H

B50 A B C D

B51 A B C D E

B52 A B C

B8

B61 A B C D E F G H

B62 A B C D E F G H

B63 A B C D E F G H

B64 A B C D E F G H

B65 A B C D E F G

B66 A B C D E F G

B67 A B C D E F G H

B68 A B C D E F G H

B69 A B C D E F G H

B70 A B C D E

B71 A B C D E

B72 A B C D E

B73 A B C D E

B74 A B C D E

B75 A B C D E

B11

B92 A B C D E F G

B93 A B C D E

B94 A B C D E

B95 A B C D E F G

B96 A B C D E

B97 A B C D E

B98 A B C D E

B99 A B C D E

B100 A B C D E

B101 A B C D E

B102 A B C D E

B103 A B C D E

B104 A B C D E F G

B2

B8 A B C D E

B9 A B C D E

B10 A B

B11 A B

B12 A B C D E

B13 A B C D

B14(a) A B C D

B14(b) A B C D

B14(c) A B C D

B14(d) A B C D

B14(e) A B C D

B14(f) A B C D

B14(g) A B C D

B14(i) A B C D

B9

B76 A B C D E

B77 A B C D E

B78 A B C D E

B79 A B C D E

B80 A B C D E

B81 A B C D E

B3

B15 A B C D E

B16 A B C D E F G

B17 A B C D E F G

B18 A B C D E F G

B19 A B C

B20 A B C D E F G

B21 A B C D E F G H

B22 A B C D E

B23 A B C D

B4

B24 A B C D E F G H

B25 A B C D E F G H

B26 A B C D

B27 A B C D E F

B12

Tarikh Pengukuran Antropometri

/ /

B24(a) Berat 1

0 0 0 0 0

1 1 1 1 1

2 2 2 2 2

3 3 3 3 3

4 4 4 4 4

5 5 5 5 5

6 6 6 6 6

7 7 7 7 7

8 8 8 8 8

9 9 9 9 9

B24(b) Berat 2

0 0 0 0 0

1 1 1 1 1

2 2 2 2 2

3 3 3 3 3

4 4 4 4 4

5 5 5 5 5

6 6 6 6 6

7 7 7 7 7

8 8 8 8 8

9 9 9 9 9

B25(a) Tinggi 1

0 0 0 0 0

1 1 1 1 1

2 2 2 2 2

3 3 3 3 3

4 4 4 4 4

5 5 5 5 5

6 6 6 6 6

7 7 7 7 7

8 8 8 8 8

9 9 9 9 9

B25(b) Tinggi 2

0 0 0 0 0

1 1 1 1 1

2 2 2 2 2

3 3 3 3 3

4 4 4 4 4

5 5 5 5 5

6 6 6 6 6

7 7 7 7 7

8 8 8 8 8

9 9 9 9 9

☐ Berat | Enggan Di ukur ☐ Tinggi | Enggan Di ukur

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KEMENTERIAN KESIHATAN MALAYSIA



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